VE UTE

VE Ute Owner’s Handbook

GM Holden Ltd, ABN 84 006 893 232 (hereinafter Holden)

Change of name, address or ownership

In the event of a Safety Recall, or for various reasons, Holden may need to contact you as the owner of this vehicle.

If you have recently changed your address, or name, or purchased this vehicle second-hand, please help us to help you by taking a few minutes to fill in and mail the forms at the beginning of the Service/warranty booklet.

For information about GM Holden's privacy policy or to update owner details online, please visit Holden's website at www.holden.com.au

Note Please refer to the inside front cover of the Service/ warranty booklet for the Vehicle Identification Certificate.

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We thank you for choosing Holden and want to assure you of our continuing interest in your driving pleasure and satisfaction.

This handbook applies to the current VE Ute series model. Therefore, due to different models and options, you may find reference in this Handbook to some equipment not fitted to your own vehicle.

Please note that all information, illustrations and specifications in this Handbook are based on the latest production information available at the time of printing. Holden reserves the right to make changes at any time without notice and without incurring any obligation.

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The *Bluetooth*® word mark and logo are registered trademarks and are owned by the Bluetooth SIG, Inc.
IMPCO® is a registered trademark of Impco Technologies, Inc.

*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

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CHAPTER 1A

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*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

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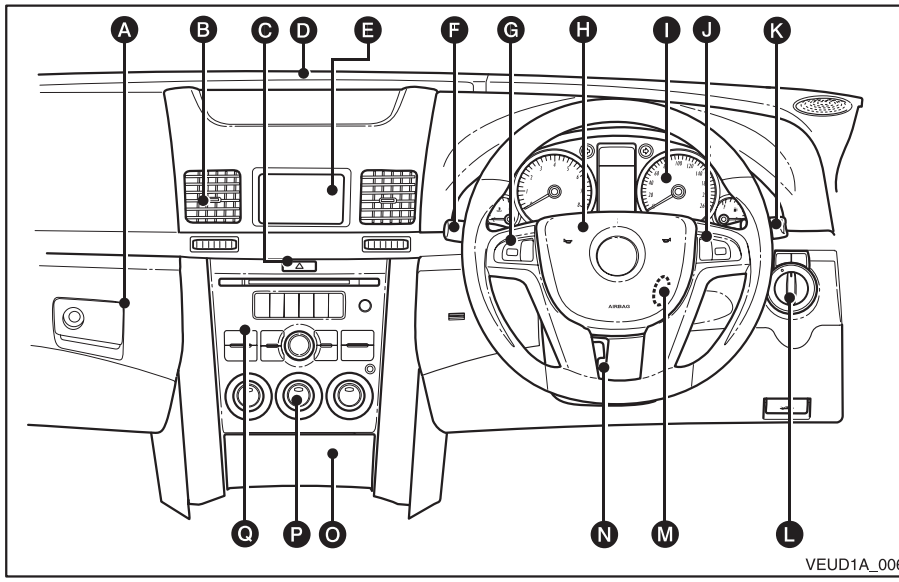
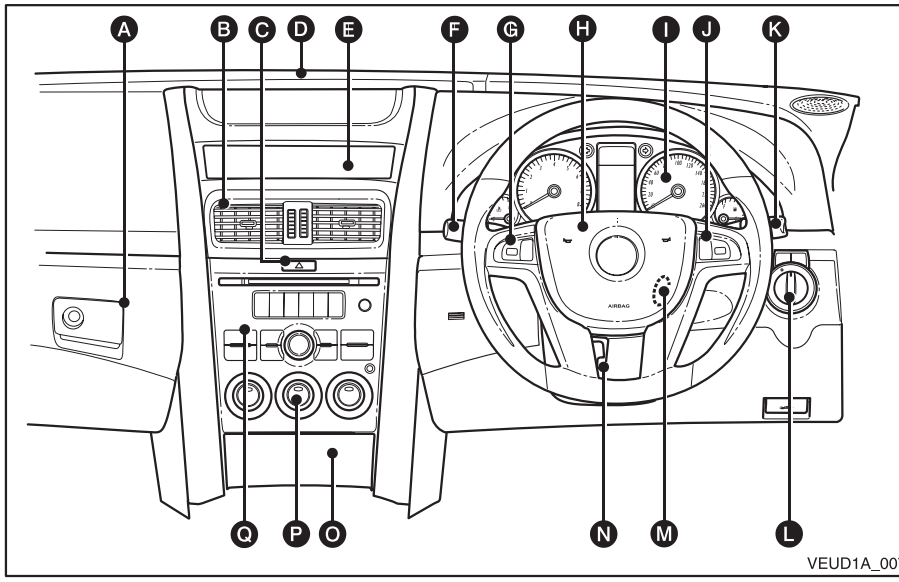


SV6/SS



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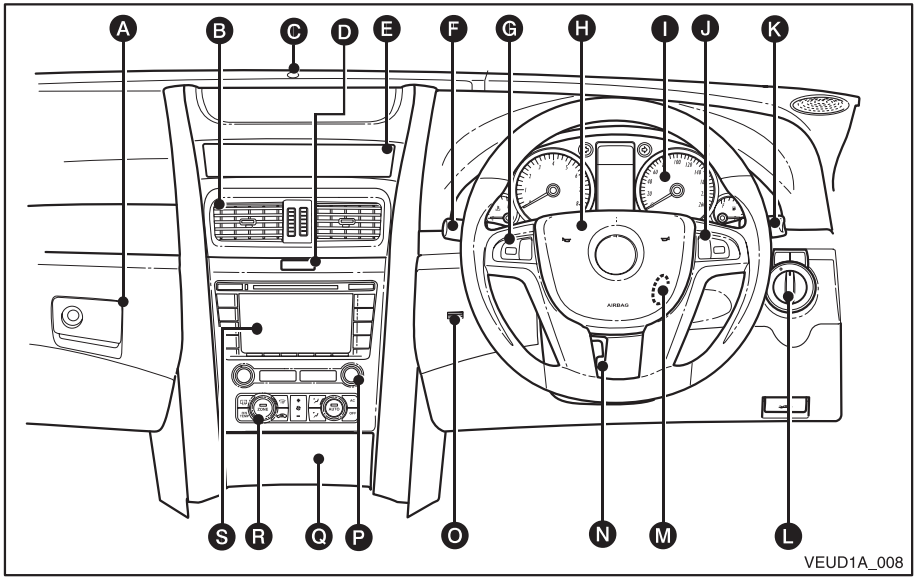
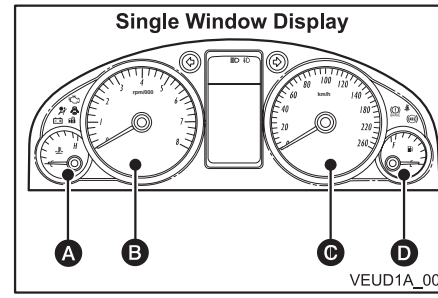


INSTRUMENTATION

GAUGES



Ⓐ Temperature gauge

The temperature gauge indicates the engine coolant temperature when the ignition is on. Stop-start driving in heavy traffic, driving at high speed in warm weather, hill climbing or towing may cause the needle to move toward the **H**. This is normal and no cause for concern. However, if the needle moves all the way to **H** and remains there for more than 30 seconds, stop the vehicle as soon as it is safe to do so. Refer to *Engine overheating* in chapter 6.

H = hot, **C** = cold.

Ⓑ Tachometer

The tachometer shows engine speed in thousands of revolutions per minute (RPM).

Ⓒ Speedometer

The speedometer shows vehicle speed in kilometres per hour (km/h).

Ⓓ Fuel gauge

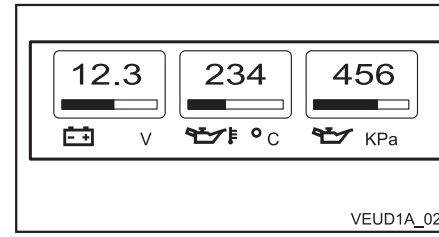
The fuel gauge shows the level of fuel in the fuel tank when the ignition is on/off:

E = empty, **F** = full.

Note Additions of fuel less than 15 litres can take up to 10 minutes to register on the fuel gauge. Larger amounts show almost immediately. This prevents fuel movement from registering on the gauge when cornering.

Sport gauges*

The gauges are located in the centre of the dashboard above the air vents. The gauges show the battery voltage, engine oil temperature and engine oil pressure.

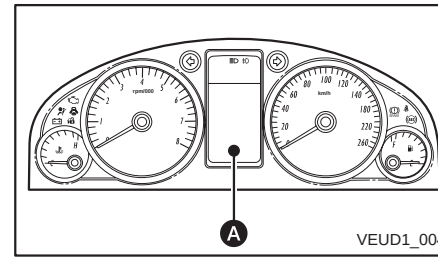


INSTRUMENTATION cont.

INFORMATION DISPLAYS

The instrument panel information display provides visual information to the driver for a number of vehicle functions such as trip computer, audio, warnings and reminders.

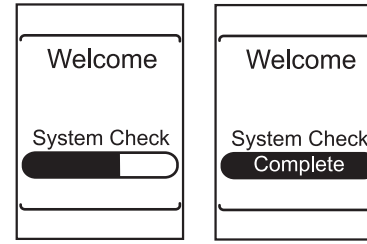
Ⓐ Centre display.



Display – Ignition on

When the ignition is switched on, a vehicle system check is performed and the status is shown on the display. If there are no warnings or service reminders, the display shows a series of welcome screens.

If the system check detects a problem, it displays the appropriate warning immediately. If a warning is displayed, press the **TRIP** button to acknowledge it (once for each warning). It then reverts to the original trip computer display.



Note

- Pressing the **TRIP** button any time during the system check causes the display to jump ahead to the last trip computer screen displayed before the ignition was last switched off. The system check continues to run in the background.
- To display the odometer screen, if not already displayed, press the **TRIP** button until the screen appears.
- The transmission selector position indication is only displayed if the vehicle is fitted with automatic transmission. Refer to *Automatic transmission* in chapter 4.

Display – Ignition off

When the ignition is switched off, the odometer appears on the display for approximately 30 seconds unless a service reminder is active. Active service reminders are displayed for 10 seconds before the odometer appears. The odometer will re-appear when the driver's door is opened.

WARNING/REMINDER INDICATIONS

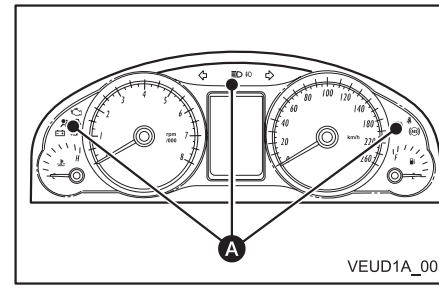
WARNING LAMPS AND REMINDERS

The following warning lamps and reminder indications may appear on the instrument panel.

They appear as illuminated icons, animated symbols or a combination of both.

Most warning/reminder indications are accompanied by a chime.

Ⓐ Warning lamp locations.



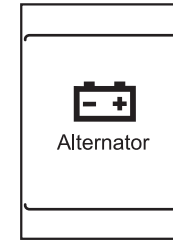
Alternator warning lamp

The alternator warning lamp illuminates for a short time when the ignition is switched on to check that the lamp is working.

If the warning lamp and the **Alternator** animation illuminate when driving, it indicates that the alternator is not charging properly. Contact your Holden Dealer.

The **Alternator** animation is displayed until the **TRIP** button or the ENTER switch are pressed.

The warning lamp remains illuminated until the problem has been rectified.



Low oil pressure/level

If the **Check Oil** animation illuminates when driving, it indicates that the oil pressure or the oil level is low.

WARNING

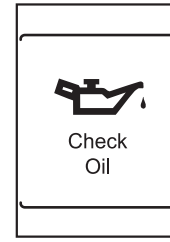
Engine damage may result if you continue driving.

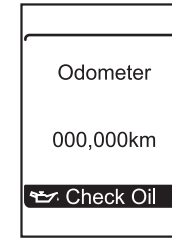
Stop when safe, switch off the engine and check the engine oil level. Refer to *Engine oil level* in chapter 7.

Do not run the engine when this warning is illuminated. If the oil level is normal, have the system checked at the nearest Holden Dealer.

The **Check Oil** animation is displayed until the **TRIP** button or the ENTER switch are pressed. The animated symbol then reverts to the original trip computer display.

Check Oil appears at the bottom of the display and remains illuminated until the problem has been rectified.





WARNING/REMINDER INDICATIONS cont.

ABS fault

The Anti-lock Brake System (ABS) warning lamp illuminates for a short time when the ignition is switched on to verify that no monitored ABS defects are present and to check that the lamp is working.

If the warning lamp and the **ABS Fault** animation does not extinguish or illuminates when driving, it indicates a malfunction with the ABS. Contact your Holden Dealer as soon as possible.

Note The vehicle's brake system will still operate conventionally with the anti-lock operation disabled. Refer to *Anti-lock brake system* chapter 4.

The **ABS Fault** animation is displayed until the **TRIP** button or the ENTER switch are pressed.

The warning lamp remains illuminated until the problem has been rectified.

Brake fail and park brake warning

The brake fail/park brake warning lamp illuminates for a short time when the ignition is switched on to verify that no monitored brake defects are present and to check that the lamp is working.

If the warning lamp and the Brake animation does not extinguish or illuminates when driving and the park brake is released, it indicates a fault with the brakes. Carefully stop the vehicle on the side of the road immediately. Do not proceed until satisfied that braking is possible or that the cause of the problem has been rectified.

Note The **Brake** animation also indicates low brake fluid. Check the brake fluid level. Refer to *Under bonnet checks* in chapter 7.

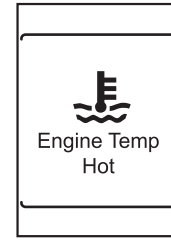
The **Brake** animation is displayed until the **TRIP** button or the ENTER switch are pressed.

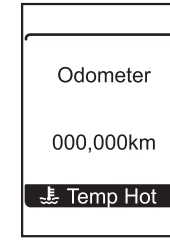
The warning lamp remains illuminated until the problem has been rectified.

If the **Park brake** animation illuminates and a chime sounds when driving, it indicates that the park brake is still applied. Release the park brake.

WARNING/REMINDER INDICATIONS cont.

Engine coolant temperature





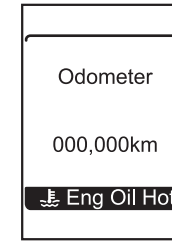
If the **Engine Temp Hot** animation illuminates when driving, it indicates that the engine coolant temperature is excessively hot. Stop the vehicle as soon as it is safe to do so.

The **Engine Temp Hot** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

Temp Hot appears at the bottom of the display and remains illuminated until the problem has been rectified.

Refer to *Engine overheating* in chapter 6.

Engine oil temperature



If the **Engine Oil Hot** animation illuminates when driving, it indicates that the engine oil has reached its maximum operating temperature.

Perform the following:

- Reduce engine RPM and vehicle load.
- If the warning remains illuminated stop the vehicle as soon as it is safe to do so and allow it to cool until the warning disappears.

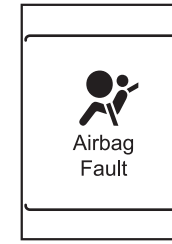
The **Engine Oil Hot** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

Eng Oil Hot appears at the bottom of the display and remains illuminated until the problem has been rectified.

Note

- If the **Engine Oil Hot** animation illuminates when engine RPM and vehicle load are low contact your Holden Dealer as soon as possible.
- Continued operation with **Engine Oil Hot** illuminated may cause damage to your vehicle's engine, which is not covered under your New Vehicle Warranty.

Airbag and seatbelt pretensioners



The **SRS** (Supplemental Restraint System) warning lamp illuminates for a short time when the ignition is switched on to check that the lamp is working.

If the **SRS** warning lamp and the **Airbag Fault** animation illuminate when driving, it indicates that the airbag system or seatbelt pretensioner system may not function correctly in an accident. Contact your Holden Dealer immediately.

Note The **SRS** warning lamp illuminates after an accident if the airbag(s) and/or pretensioners have activated.

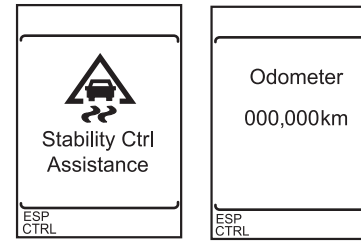
The **Airbag Fault** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

The **SRS** warning lamp remains illuminated until the problem has been rectified.

Refer to *Supplemental Restraint System* in chapter 3.

WARNING/REMINDER INDICATIONS cont.

Stability control assistance

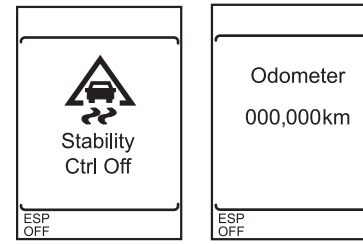


If the **Stability Ctrl Assistance** animation illuminates when driving, it indicates that the Electronic Stability Program (ESP®) is actively helping the vehicle with road grip and stability.

ESP® CTRL appears at the bottom of the display and remains illuminated as long as the Electronic Stability Program (ESP®) is actively helping the vehicle with road grip and stability.

Refer to *Electronic stability program* in chapter 4.

Stability control off



If the **Stability Ctrl Off** animation illuminates when driving and you have not switched the ESP® off by pressing the switch, it indicates that the ESP® system is no longer functioning. Contact your Holden Dealer.

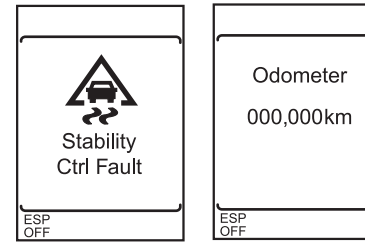
The **Stability Ctrl Off** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

ESP® OFF appears at the bottom of the display and remains illuminated until the problem has been rectified.

Note If you press the button to switch the ESP® off or on, the **Stability Ctrl Off** or **Stability Ctrl On** animation also illuminates for 2 seconds.

Refer to *Electronic stability program* in chapter 4.

Stability control fault



If the **Stability Ctrl Fault** animation illuminates when driving and you have not switched the ESP® off by pressing the switch, it indicates that the ESP® system has a fault. Contact your Holden Dealer.

The **Stability Ctrl Fault** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

ESP® OFF appears at the bottom of the display and remains illuminated until the problem has been rectified.

Note If you press the button to switch the ESP® off or on, the **Stability Ctrl Fault** animation also illuminates for 2 seconds.

Refer to *Electronic stability program* in chapter 4.

ESP® is a registered trademark of Daimler Chrysler AG.

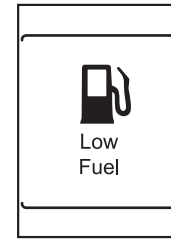
WARNING/REMINDER INDICATIONS cont.

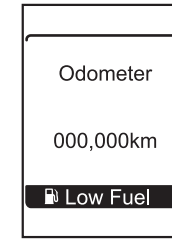
Low fuel

If the **Low Fuel** animation illuminates when driving, it indicates that the fuel level is low.

The **Low Fuel** animation is displayed until the **TRIP** button or the ENTER switch are pressed.

Low Fuel appears at the bottom of the display and remains illuminated until the fuel tank is filled above the low fuel level.



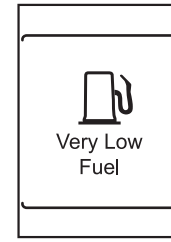


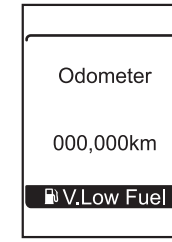
Very low fuel

If the **Very Low Fuel** animation illuminates when driving, it indicates that the fuel level is very low.

The **Very Low Fuel** animation is displayed until the **TRIP** button or the ENTER switch are pressed.

V.Low Fuel appears at the bottom of the display and remains illuminated until the fuel tank is filled above the low fuel level.





Rest reminder

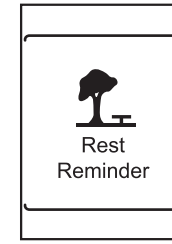
This feature reminds the driver that they may have been driving for too long without a break.

When the ignition is switched on, a timer starts counting. After two hours of continuous driving, the rest reminder icon flashes to alert the driver.

The **Rest reminder** animation is displayed until the **TRIP** button or the ENTER switch are pressed. The animated symbol then reverts to the original trip computer display.

The rest reminder reappears after a further 20 minutes accompanied by a chime, unless the ignition has been switched off.

For information on how to switch the rest reminder on and off, refer to *Customisation menu* further on in this chapter.

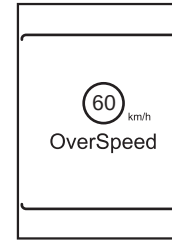


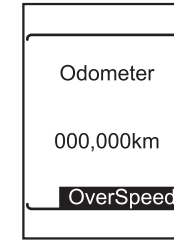
Overspeed

The **OverSpeed** animation illuminates and a chime sounds to warn the driver when the vehicle's speed exceeds a preselected value.

The **OverSpeed** animation illuminates until:

- it returns automatically after 10 seconds, or
- the vehicle's speed drops below the preselected value, or
- the ENTER switch is pressed.





It then returns to the original trip computer display while **OverSpeed** at the bottom of the display illuminates as long as the vehicle's speed exceeds the preset value.

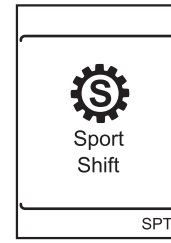
Refer to *Trip computer* further on in this chapter.

WARNING/REMINDER INDICATIONS cont.

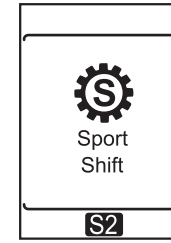
Sport shift*

The **Sport Shift** animation illuminates when the automatic transmission is operating in sport shift mode.

Refer to *Automatic transmission* in chapter 4.



4 speed

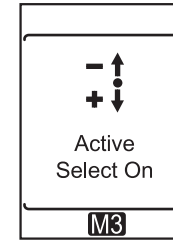


6 speed

Active select*

The **Active Select On** animation illuminates when the automatic transmission active select mode is enabled.

Refer to *Automatic transmission* in chapter 4.

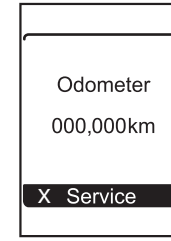


Service error

If the **Contact Dealer** animation illuminates when driving, it indicates a fault in the instrument panel. Contact your Holden Dealer as soon as possible.

The **Contact Dealer** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

X Service appears at the bottom of the display and remains illuminated until the problem has been rectified.

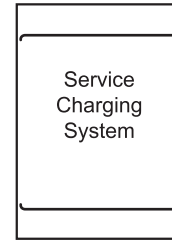


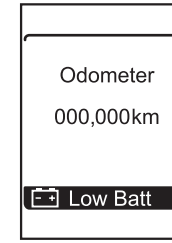
Service charging system

If the **Service Charging System** animation illuminates and a chime sounds, it indicates a fault in the battery charging system. Contact your Holden Dealer as soon as possible.

The **Service Charging System** animation is displayed until the **TRIP** button or the ENTER switch are pressed. The animated symbol then reverts to the original trip computer display.

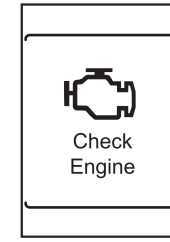
Low Batt appears at the bottom of the display and remains illuminated until the problem has been rectified.





WARNING/REMINDER INDICATIONS cont.

Check engine warning



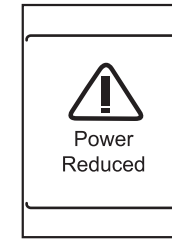
If the **Check Engine** animation and the Malfunction Indicator Lamp (MIL) illuminate and stay on when driving, the system may require servicing. Although the vehicle may still be drivable and not require towing, take the vehicle to a Holden Dealer as soon as possible.

If the **Check Engine** animation illuminates and the MIL flashes while driving, reduce the vehicle's speed and load, until the lamp stops flashing, then take the vehicle to a Holden Dealer as soon as possible.

The **Check Engine** animation is displayed until the **TRIP** button or the ENTER switch are pressed. It then reverts to the original trip computer display.

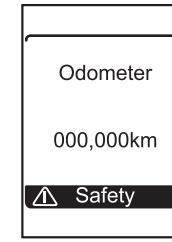
Refer to *Malfunction Indicator Lamp (MIL)* further on in this chapter.

Safety mode



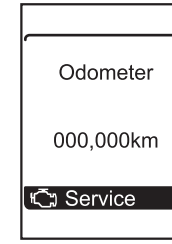
If the Safety Mode Active and Power Reduced animations illuminate alternately when driving, it indicates a fault in the engine control system. Although the vehicle may still be driveable, the accelerator input available may be limited, resulting in reduced power. Have the problem fixed by your Holden Dealer as soon as possible.

The **Safety Mode Active** and **Power Reduced** animations are displayed until the **TRIP** button or the ENTER switch are pressed. They then revert to the original trip computer display.



⚠ **Safety** appears at the bottom of the display and remains illuminated until the problem has been rectified.

Service vehicle soon



If the **Service Vehicle Soon** animation illuminates when driving, it indicates that a fault has occurred in one of the ancillary systems of the vehicle. Although the vehicle may still be drivable, take the vehicle to your Holden Dealer, as soon as possible. Excess driving may result in vehicle damage.

The **Service Vehicle Soon** animation is displayed until the **TRIP** button is pressed. The animated symbol then reverts to the original trip computer display. **Service** appears at the bottom of the display and remains illuminated until the problem has been rectified.

WARNING/REMINDER INDICATIONS cont.

Service

The **Service** animation first appears with the spanner flashing 1,000 km before a service is due, giving you time to arrange for the service to be carried out. The message is shown for 10 seconds or until the **TRIP** button is pressed whenever the ignition is switched on or off. This will happen until the trip computer is reset. When the service is overdue, the whole icon flashes for 10 seconds when the ignition is switched on or off. Refer to the Service/warranty booklet in the glovebox for further information on servicing.

Note This reminder is calculated only by distance. Remember that if driving infrequently, special servicing may be required. Refer to the Service/warranty booklet in the glovebox.

The **Service** message is reset when your Holden Dealer services the vehicle.

Cruise control

The **Cruise On** animation illuminates when the cruise control is activated and ready for use.

Refer to *Cruise control* further on in this chapter.

Replace battery in remote key

If the **Replace Battery in Remote Key** animation illuminates and a chime sounds, it indicates the battery in the key needs replacing. Contact your Holden Dealer as soon as possible.

The **Replace Battery in Remote Key** animation is displayed until the **TRIP** button or the ENTER switch are pressed. The animated symbol then reverts to the original trip computer display.

Key Batt appears at the bottom of the display and remains illuminated until the problem has been rectified.

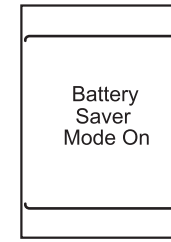
Shift denied

The transmission will shift to a selected gear only if the engine speed is within a suitable range. If the engine speed is not suitable, the displayed gear will not change and the message **Shift Denied** will be displayed, indicating that the transmission has not shifted gears.

WARNING/REMINDER INDICATIONS cont.

Battery saver mode on

If the **Battery Saver Mode On** animation illuminates, it indicates that the battery voltage level is low.



Alarm activated

If the alarm has been activated, the **Alarm Activated** animation appears for about one second followed by a animation showing which trigger point has activated the alarm. If there is more than one trigger point, an animation for each of them will follow.

Each animation will be displayed for about one second before the display returns to the **Alarm Activated** animation. The animations are shown in a continuous cycle until the **TRIP** button is pressed.

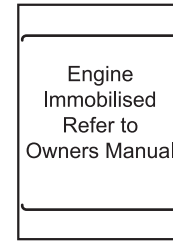
Refer to *Break-in* in chapter 2.

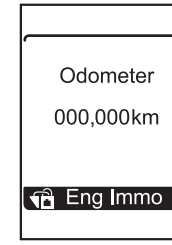
Engine immobilised refer to owners manual

If the **Engine Immobilised Refer to Owners Manual** animation illuminates, refer to *Security* in chapter 2.

The **Engine Immobilised Refer to Owners Manual** animation is displayed until the **TRIP** button or the ENTER switch are pressed. The animated symbol then reverts to the original trip computer display.

Eng Immo appears at the bottom of the display and remains illuminated until the problem has been rectified.





WARNING/REMINDER INDICATIONS cont.

Driver's seatbelt warning lamp

The warning lamp reminds the driver to fasten their seatbelt.

If the driver's seatbelt is not fastened when the ignition is switched to the ON or START position, the warning lamp illuminates and the chime sounds for approximately 20 seconds.

If the driver's seatbelt is not fastened and the vehicle's speed reaches 25 km/h, the warning lamp will flash, the chime will sound and the **Fasten Drv's Seat Belt** animation illuminates until the driver's seatbelt is fastened.

Front passenger's seatbelt warning lamp*

The warning lamp reminds the front seat passenger to fasten their seatbelt.

If the front passenger's seatbelt is not fastened within 25 seconds of switching the ignition to the ON or START position, the warning lamp illuminates and the chime sounds for approximately 20 seconds.

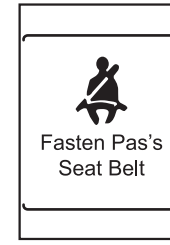
If the passenger's seatbelt is not fastened and the vehicle's speed reaches 25 km/h, the warning lamp will flash, the chime will sound and the **Fasten Pas's Seat Belt** animation illuminates until the passenger's seatbelt is fastened.

Fasten driver's seatbelt

If the driver's seatbelt is not fastened and the vehicle's speed reaches 25 km/h, the warning lamp will flash, the chime will sound and the **Fasten Drv's Seat Belt** animation illuminates until the driver's seatbelt is fastened.

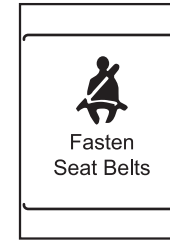
Fasten passenger's seatbelt*

If the passenger's seatbelt is not fastened and the vehicle's speed reaches 25 km/h, the warning lamp will flash, the chime will sound and the **Fasten Pas's Seat Belt** animation illuminates until the passenger's seatbelt is fastened.



Fasten seatbelts*

If the driver's and front passenger's seatbelts are not fastened and the vehicle's speed reaches 25 km/h, the and warning lamps will flash, the chime will sound and the **Fasten Seat Belts** animation illuminates until both seatbelts are fastened.



WARNING/REMINDER INDICATIONS cont.

Seat belt warning lamp

The warning lamp reminds vehicle occupants to fasten their seat belts.

If the driver's seat belt is not fastened when the ignition is switched to the ON or START position, the warning lamp illuminates and the chime sounds for approximately 20 seconds.

If the driver's seat belt is not fastened and the vehicle speed reaches 25 km/h, the warning lamp will flash, the chime will sound and the **Fasten Drv's Seat Belt** animation illuminates until the driver's seat belt is fastened.

Fog lamp indicator*

The indicator lamp illuminates when the fog lamps are on. Refer further on in this chapter for information on the operation of the fog lamps.

High beam indicator lamp

The indicator lamp illuminates when the headlamp high beams are on.

Turn signals

The appropriate arrow flashes when the lever on the right side of the steering column is moved up or down with the ignition switched on.

- Both arrows flash when the hazard warning flasher is switched on. Refer further on in this chapter for information on the hazard warning flasher.
- The turn signal lamps flash at a quicker rate if a bulb has blown.

Security warning lamp

The warning lamp flashes (approximately once every second) when the vehicle security system is activated.

Malfunction Indicator Lamp (MIL)

This vehicle is fitted with an emission monitoring system. The lamp illuminates when the ignition is switched on and extinguishes shortly after the engine starts to run.

If the lamp illuminates and stays on when driving, the system may require servicing. Although the vehicle may still be drivable and not require towing, take the vehicle to a Holden Dealer as soon as possible.

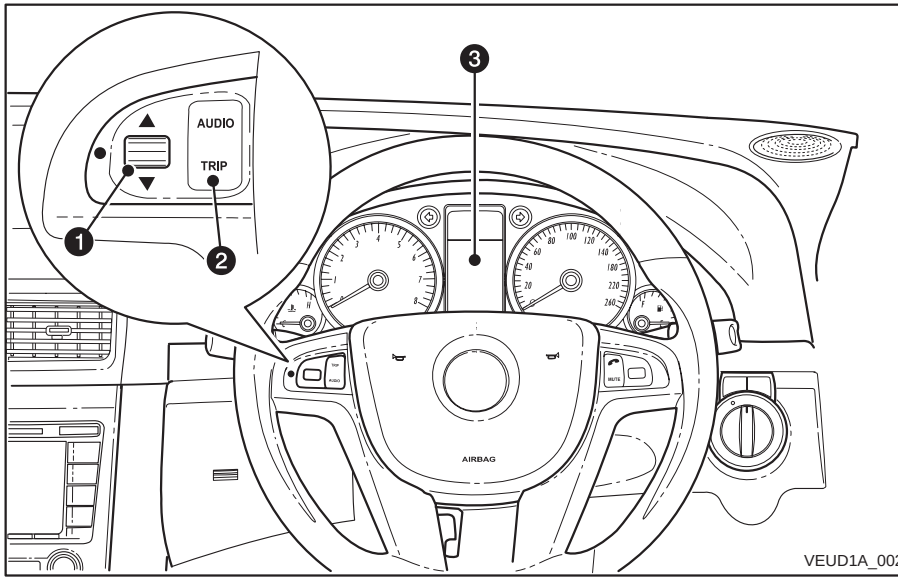
If the lamp flashes while driving, reduce the vehicle's speed and load, until the lamp stops flashing, then take the vehicle to a Holden Dealer as soon as possible.

Refer to *Check engine warning* previously in this chapter.

Door ajar lamp

The door ajar lamp illuminates when any door is open.

TRIP COMPUTER



The trip computer is shown on the centre display ❸.

CONTROLS

Press the **TRIP** button ❷ on the left-hand spoke of the steering wheel to scroll between the trip computer displays and to highlight the values.

When the values are highlighted, press the ENTER switch ❶ (push down on the scroll wheel) to the left of the **TRIP** button to reset the values.

Note

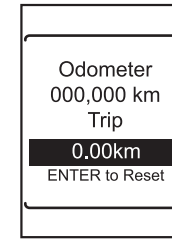
- When scrolling to a display, the values are highlighted for a short period. If you wish to reset the values, press the ENTER switch while the values are highlighted. If you do not press the ENTER switch, the highlighting disappears. Press the **TRIP** button again to highlight the values and press the ENTER switch to reset them.
- When the ignition is switched on, the trip computer displays the same functions as when the ignition was last switched off.

Customisable feature

The trip computer can be customised to suit your requirements. Customisable functions and features are marked with a diamond shaped icon (◊). Refer to *Customisation menu* further on in this chapter.

TRIP COMPUTER cont.

Odometer/tripmeter

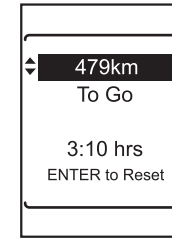


The odometer records kilometres travelled since the vehicle was built. The tripmeter shows the kilometres travelled from the start of a particular trip.

To reset only the tripmeter to zero, highlight the tripmeter value and press the ENTER switch for more than three seconds.

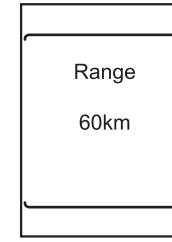
Note If the ENTER switch is pressed briefly this will reset the average speed and average fuel values as well.

Distance/time to go◊



At the start of a trip, estimate distance to arrival (for example, from maps, road signs). Rotate the ENTER switch up or down (▲ or ▼) until the display shows the estimated trip distance. When driving, the computer constantly updates time to arrival, based on changing driving speeds. Use the ENTER switch to adjust the kilometres any time this display is shown. Time to go is shown in hours and minutes and is only shown if the distance to go is more than zero.

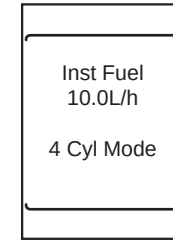
Range (excluding LPG vehicles)



Range is an estimate of how far the vehicle will travel on the current amount of fuel. It is based on previous fuel usage and is frequently updated. As conditions become suited to more economical driving the range may increase, for example from city to highway driving.

In addition, movement of fuel in the tank can cause the reading to fluctuate when the fuel level is low.

Instantaneous fuel*



Shows instantaneous fuel consumption in litres per 100 km when driving. When vehicle speed drops below 10 km/h, the value is shown in litres per hour.

Active Fuel Management (AFM) shows how many cylinders are currently active. The amount of cylinders active reduces from 8 to 4 in certain driving conditions, when less engine power is required. The engine will reactivate the other cylinders when additional power for acceleration or load is required.

This feature will only display when cylinder mode is activated in the Customisation menu.

TRIP COMPUTER cont.

Average speed/average fuel (excluding LPG vehicles)

Avg Speed shows the average speed (while the engine is running) since the trip computer was reset.

Avg Fuel shows average fuel used since the trip computer was reset.

To reset only the **Avg Speed** or **Avg Fuel**, highlight either of the values and press the ENTER switch for more than three seconds.

Note

- If the ENTER switch is pressed briefly this will reset the tripmeter as well.
- After resetting, a high fuel consumption figure may appear initially due to the short distance travelled and the large amount of fuel used when accelerating.

Overspeed

Overspeed allows the driver to set a speed that they do not want to exceed. The **OverSpeed** animation will illuminate in the display and a chime will sound to warn that the vehicle's speed is equal or has exceeded the preselected value. During an overspeed warning, the overspeed display is shown, allowing the driver to make adjustments.

Setting the overspeed warning

When the **OverSpeed** display is shown, press the **TRIP** button to highlight the overspeed mode.

Rotate the ENTER switch up or down (▲ or ▼) to scroll through and highlight one of the following options:

- **Off**
- **Manual**
- **Preset 1** (default setting 60 km/h)
- **Preset 2** (default setting 80 km/h)
- **Preset 3** (default setting 100 km/h)
- **Preset 4** (default setting 110 km/h)

The corresponding value is shown on the display.

The selection is set automatically after a few seconds.

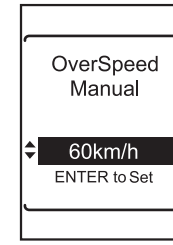
To switch off the overspeed warning, rotate the ENTER switch up or down (▲ or ▼) to highlight **Off**.

Note The overspeed values can be set to a speed of 20 km/h or higher. Adjusting it to a speed below 20 km/h will switch off the overspeed.

TRIP COMPUTER cont.

To adjust the **Manual** overspeed value:

1. Rotate the ENTER switch up or down (▲ or ▼) to highlight **Manual** and press the ENTER switch to highlight the current value.
2. Rotate the ENTER switch up or down to select the desired value in 5 km increments.
3. Press the ENTER switch to confirm the setting.

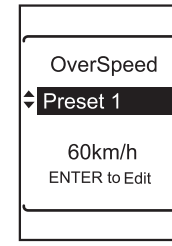


To adjust the **Manual** overspeed value to the current vehicle's speed:

1. Rotate the ENTER switch up or down (▲ or ▼) to highlight **Manual** and press the ENTER switch to highlight the current value.
2. Press and hold the ENTER switch for more than 3 seconds to set the value to the nearest 5 km/h step above the current vehicle's speed.

To select a **Preset**, rotate the ENTER switch up or down (▲ or ▼) to highlight the desired preset.

Note While the vehicle's speed is 10 km/h or below, each of the presets can be altered and values can be stored for future use.



To alter a preset:

1. Rotate the ENTER switch up or down (▲ or ▼) to highlight the desired preset and press the ENTER switch.
2. Rotate the ENTER switch up or down to select the desired value in 1 km increments.
3. Press the ENTER switch to confirm the setting.

Note The presets are automatically arranged in ascending order.

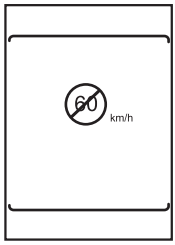
Adjusting the setting during an overspeed warning

While the overspeed warning is displayed:

- Rotate the ENTER switch up or down (▲ or ▼),
  - to adjust the value when in **Manual** mode.
  - to select a different preset when in **Preset** mode.
- Press and hold the ENTER switch for more than 3 seconds to change the value to the nearest 5 km/h step above the current vehicle's speed. If **Preset** mode was selected, this will change it to **Manual** mode.

TRIP COMPUTER cont.

Underspeed chime◊



If an overspeed warning appeared and the vehicle's speed drops below the set value, underspeed provides a chime to indicate this. Underspeed can be switched on and off in the Customisation menu.

Refer to *Customisation menu* further on in this chapter.

Digital speedometer◊

When the digital speedometer is enabled in the Customisation menu, the vehicle's speed is also displayed numerically on the instrument panel's centre display.

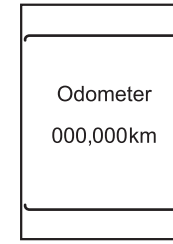
Refer to *Customisation menu* further on in this chapter.

Trip computer notes

- If the wrong buttons are accidentally pressed, causing the display to show anything other than normal, switch the ignition off then on again (only when the vehicle is stationary).
- Several warning lamps are linked to the instrument panel display window. Refer to *Warning/reminder indications* previously in this chapter.
- When the overspeed warning symbol is first shown, the overspeed trip computer display is automatically shown for 10 seconds. This indicates the preselected speed and allows you to adjust it if required. After 10 seconds, the trip computer returns to its previous display.
- Some displays change the units of measurement over time. For example, if the time to arrival is above 99 hours and 59 minutes, only hours will be shown. Time to arrival also shows 10 minute units above 2 hours, 5 minute units below 2 hours and 1 minute units below 10 minutes.
- The personal identity key* system stores different settings used by different keys. If the vehicle is fitted with this system, the trip computer stores the last selected settings. When the button on the key is pressed, the last set of displays and overspeed settings will be recalled. Refer to *Personal identity keys* in chapter 2.

CUSTOMISATION MENU

USING THE CUSTOMISATION MENU



Entering the Customisation menu

Scroll to the Customisation menu using the **TRIP** button and press the ENTER switch.

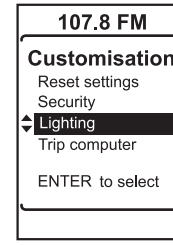
Note The Customisation menu cannot be opened when the vehicle speed is above 10 km/h. At speeds above 10 km/h, the Customisation menu shows **Not Available**.

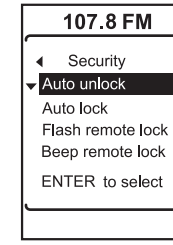
Navigating the menu

To scroll through and highlight the entries within a menu, rotate the ENTER switch up or down (▲ or ▼).

To select an entry, press the ENTER switch.

To exit a menu, scroll to the ◄ symbol at the top left-hand corner of the display and press the ENTER switch.

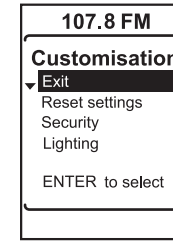




Exiting the Customisation menu

Exit the Customisation menu in one of the following ways:

- Scroll to **Exit** and press the ENTER switch.
- Press the **TRIP** button at any time to return to the trip computer displays.
- Drive the vehicle at more than 10 km/h.
- Switch the ignition off (only if stationary).



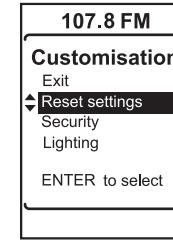
Help screens

There are help screens to assist the driver to understand the features. If selecting a menu item, wait for a few seconds and a help screen pops up with an explanation of the selected feature.

Reset settings

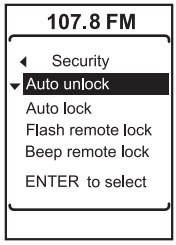
To reset all settings to the factory defaults:

1. Highlight **Reset settings** and press the ENTER switch.
2. Highlight **Yes** or **No** and press the ENTER switch to confirm the setting.



CUSTOMISATION MENU cont.

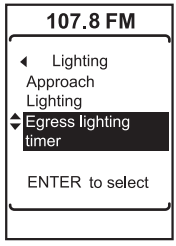
Security



For information on the following features, refer to chapter 2.

- **Auto unlock**
  Choose when you want the doors to unlock automatically.
  - **Off**
    Auto unlock is switched off.
  - **Driver door key out**
    The driver's door will unlock when the key is removed.
  - **Driver door in park** (vehicles with automatic transmission)
    The driver's door will unlock when you put the gear selector lever into **P** (park).
  - **All doors at key out**
    All doors will unlock when the key is removed.
  - **All doors in park** (vehicles with automatic transmission)
    All doors will unlock when you put the gear selector lever into **P** (park).
- **Auto lock**
  Choose when you want the doors to lock automatically.
  - **Off**
    Auto lock is switched off.
  - **At vehicle speed**
    The doors will lock when the vehicle speed is at or above 13 km/h.
  - **Out of Park** (vehicles with automatic transmission)
    All doors will lock when you move the gear selector lever out of **P** (park).
- **Flash remote lock**
  Choose if you want the turn signal lamps to flash when you lock the doors.
- **Beep remote lock**
  Choose if you want the horn to sound when you lock the doors.
- **Flash remote unlock**
  Choose if you want the turn signal lamps to flash when you unlock the doors.
- **Two stage unlock**
  Choose if you want only the driver's door to unlock by pressing once when you unlock the doors.

Lighting

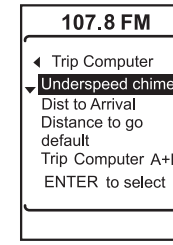


For information on the following features, refer to *Lights* further on in this chapter.

- **Approach lighting**
  Choose if the exterior lamps should illuminate when you unlock the doors.
- **Egress lighting**
  Choose if, and for how long, the exterior lamps should illuminate when you lock the doors.

CUSTOMISATION MENU cont.

Trip Computer



For information on the following features, refer to *Trip computer* previously in this chapter.

- **Underspeed chime**

  Choose if you want the underspeed chime to sound.
- **Distance to go**

  Choose if you want the distance to go display to appear.
- **Distance to go Default**

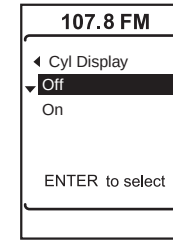
  The default settings is 500 km. Set the value you want it to be.

  Note Distance to go Default is not available if trip computer A&B function is selected.
- **Digital speedometer**

  Choose if you want a digital speedometer to appear in the centre display.
- **Rest reminder**

  Choose if you want the rest reminder to be enabled/disabled. Refer to *Warning/ reminder indications* previously in this chapter.

Cylinder mode*

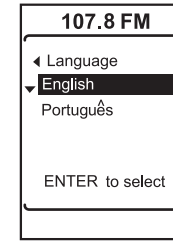


Displays how many cylinders are currently operating.

- **Off** Choose if you don't want to display how many cylinders are currently active.
- **On** Choose if you want to display how many cylinders are currently active.

Note Instantaneous fuel is not available if cylinder mode is deactivated.

Language



Choose your preferred language for the displays: English or Portuguese.

STEERING, HORN, HAZARD WARNING

TILT/REACH STEERING

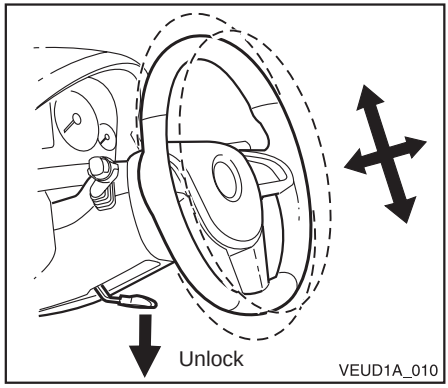
WARNING

Do not attempt to adjust the steering wheel while driving.

Move the lock lever under the steering column downwards.

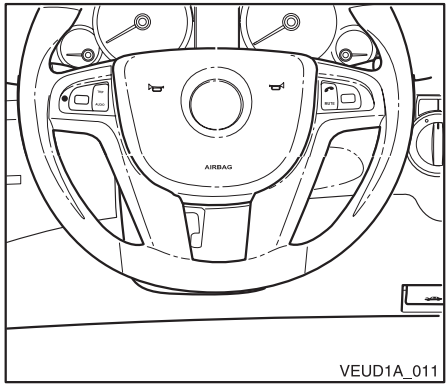
Grasp the steering wheel and move it as required. It can be moved up or down, pulled towards you or pushed away from you.

When the steering wheel is in the preferred position, move the lock lever up. Ensure it has locked securely before driving.



HORN

The horn is activated by pressing either side of the steering wheel centre pad.

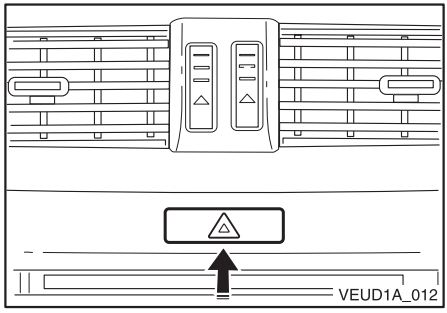


HAZARD WARNING FLASHER

Press the button to turn the hazard warning flasher on and off. The hazard warning flasher works regardless of the ignition position. When the hazard warning flasher is turned on, all turn signals flash continuously.

Use the hazard warning flasher to warn other drivers any time the vehicle becomes a traffic hazard, day or night.

Note Use of the hazard warning flashers while the vehicle is moving is illegal in some States and countries.



WIPERS AND WASHERS

OPERATING THE WIPERS AND WASHERS

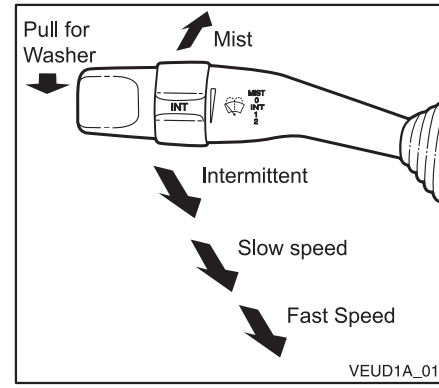
The lever on the left side of the steering column controls the wipers and washers. They operate when the ignition is switched to the ON or ACCESSORIES positions.

WARNING

Never operate the wipers on dry glass, as this will damage the rubber and scratch the glass.

Mist function (MIST)

Move the lever up. The wipers will cycle while holding the lever in this position.



Wipers off (0)

Intermittent wipe (INT)

Move the lever down to the first stop to set the wipers to the intermittent position.

Slow speed (1)

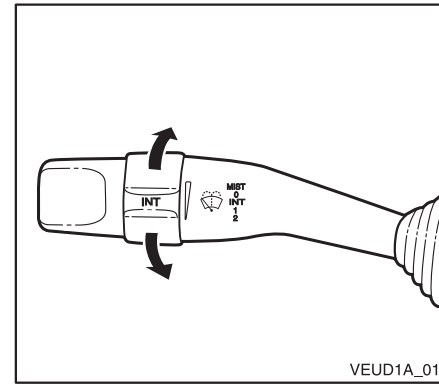
Move the lever down to the second stop.

Fast speed (2)

Move the lever down to the third stop.

Variable intermittent wipers

The frequency of the intermittent wipe can be adjusted by rotating the collar, marked **INT**. Rotate the collar down for more frequent wipes, or up for less frequent wipes.



Note

- The variable intermittent wiper frequency is road speed dependent.
- This means that as the vehicle speed increases, so does the wiper rate.

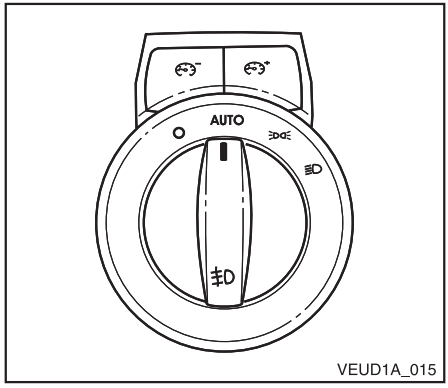
Washer

To spray washer fluid onto the windscreen, pull the lever towards you and hold as long as required. The wipers switch on automatically for a short time if they are not already operating.

When topping up the washer fluid, refer to *Washer fluid level* in chapter 7.

LIGHTS

LIGHTS SWITCH



O = Off

Turns the headlamps and park lamps off.

AUTO = Automatic headlamps

Headlamps and park lamps switch on and off automatically. Select high and low beam using the lever.

Note Headlamps and park lamps switch on automatically when wipers are operating.

= Park lamps

Turns on the park, tail, rear number plate lamps and instrument panel lighting.

= Headlamps

Turns on the headlamps (in addition to all the park lamps).

= Fog lamps*

When the headlamp switch is set to park lamps or headlamps, pull the switch outwards to turn the fog lamps on. Push the switch inwards to turn them off. The indicator lamp illuminates when the fog lamps are on.

Note The fog lamp switch can also be pulled out with the switch in the auto position. If left in this position, whenever the park lamps and headlamps turn on automatically, so will the fog lamps.

= Instrument lighting dimmer

The instruments are automatically illuminated when the park lamps or headlamps are switched on.

To adjust the instrument lighting, hold the bright + or dim - button until the desired level is reached.

Night panel mode

Press both instrument lighting dimmer buttons simultaneously to enable night panel mode for country driving. Press and hold either button again to switch instrument lighting back on.

Note

- When Night panel mode is enabled the speedo, information displays and warning reminders remain illuminated while all other instrument panel illumination is switched off.
- In night panel mode, only the gauges that are illuminated will be active.

LIGHTS cont.

EXTERIOR LAMPS

Automatic headlamps

When the headlamp switch is in the **AUTO** position, the headlamps and park lamps automatically switch off and on according to the ambient light. Select high and low beam using the lever.

Note

- The light sensor is centrally mounted on the top of the dashboard. Be careful not to cover up the sensor, as this may affect operation. Occasionally wipe the sensor clean.
- The headlamps, park lamps and reverse lamps are activated by the approach lighting feature. Refer to *Approach lighting* below.

WARNING

The automatic headlamp sensor cannot replace the driver's personal judgement of the prevailing light conditions. For example, the sensor is unable to detect foggy conditions. In situations such as this, set the lights switch to ≡D, otherwise your safety and that of other road users could be endangered.

Automatic headlamps off

Leaving the headlamps or park lamps on when the engine is not running will eventually flatten the battery. To prevent this, the headlamps and park lamps switch off when the ignition is switched to LOCK. The lamps stay off until the ignition is switched on or the lamps are turned on using the lights switch.

Note If you wish to have the lamps on when leaving the vehicle, switch the ignition to LOCK then turn the lights switch first to **AUTO** then to park lamps or headlamps.

Egress lighting

The headlamps can be set to switch off after an adjustable time delay, once the ignition has been switched to the LOCK position. This is useful for illuminating a path.

To set the time delay from when the ignition is switched to LOCK to when the lamps automatically switch off, refer to *Customisation menu* previously in this chapter.

Approach lighting

This feature is designed to provide additional security when returning to the vehicle at night. When pressing the unlock button on the ignition key, the vehicle's headlamps, park lamps, and reverse lamps will illuminate for a predefined time (60 seconds).

Note The lamps only turn on if the headlamps switch is left in the **AUTO** position.

To enable/disable the function, refer to *Customisation menu* previously in this chapter.

LIGHTS cont.

Personal identity keys*

When the button is pressed on the key, the system identifies the key and sets the headlamp time delay to the last adjustments used for that key. Refer to *Personal identity keys* in chapter 2.

Fog lamps*

Fog lamps provide a different illumination of the road to the usual headlamp beam. Depending on the density of the fog, a different combination of lamps will improve vision. In very heavy fog, vision may be improved by turning the headlamps off, and just having the park lamps and fog lamps on. When the fog lamps are turned on, the fog lamp indicator illuminates on the instrument panel.

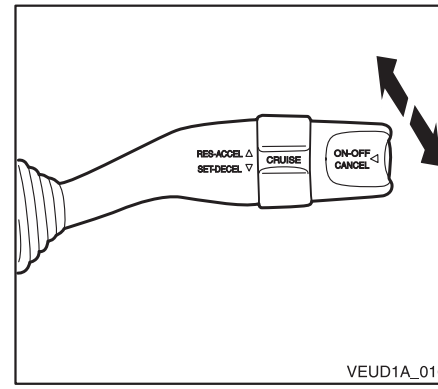
Note Driving speed should be reduced in fog. Check your State laws regarding use of fog lamps when driving.

High/low beam

With the headlamps on, push the lever on the right side of the steering column away from you until you feel a click, then release it. The headlamps change from low to high beam. The high beam indicator lamp illuminates on the instrument panel. To return to low beam, pull the lever towards you.

To flash the high beam lamps, pull the lever towards you. The lamps remain on high beam as long as the lever is held.

Note The high beam lamps can be flashed even if the headlamps and/or ignition are switched off.

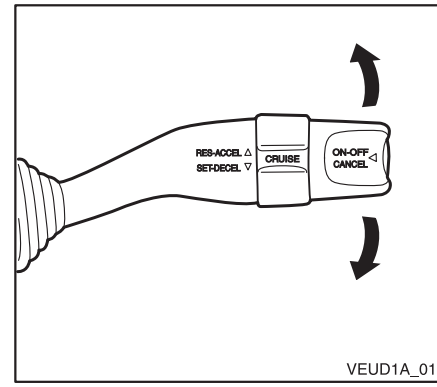


Turn signals

- To signal a turn, push the lever on the right side of the steering column in the same direction you turn the steering wheel.
- To signal a lane change, push the lever part way in the direction you turn the steering wheel. The turn signals will flash 3 times to indicate a lane change. The lever returns to the neutral position when released. To cancel the lane change function, push the lever in either direction.

A green arrow on the instrument panel flashes when the lights are in operation.

Note In some turns (such as changing lanes) the steering wheel is not turned far enough to cancel the turn signal.



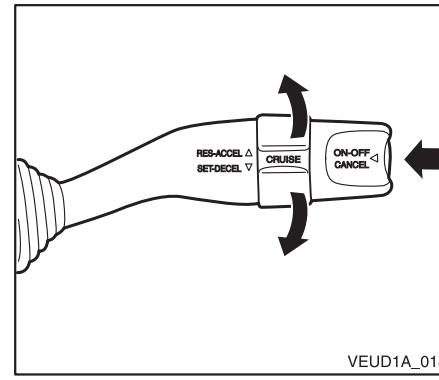
CRUISE CONTROL

OPERATING CRUISE CONTROL

The cruise control maintains the vehicle's speed without you having your foot on the accelerator pedal.

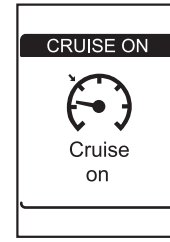
Note The cruise control will only operate at speeds above 38 km/h.

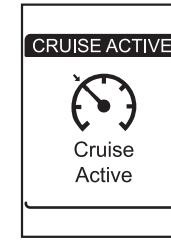
The cruise control lever is located on the right side of the steering column.



Setting a speed

1. Switch on the ignition.
2. Press the **ON-OFF/CANCEL** switch at the end of the lever. The **CRUISE ON** animation appears in the information display to indicate that the cruise control is enabled.
3. When travelling at the desired speed, rotate the collar down to the **SET-DECEL** position. The **CRUISE ACTIVE** animation appears in the information display. This indicates that the cruise control is now controlling the vehicle's speed. Release both the accelerator pedal and the collar.





Note The animation will only be displayed for a few seconds. The display then reverts to the original trip computer display. **CRUISE ON** or **CRUISE ACTIVE** appears at the top of the display.

Adjusting the set speed

- To reduce the set speed, rotate the collar down to the **SET-DECEL** position.
- To increase the set speed, rotate the collar up to the **RES-ACCEL** position.
- After releasing it, the new speed will be maintained.

Note To change the speed in small amounts, momentarily rotate the collar.

CRUISE CONTROL cont.

Pausing the cruise control

Press the brake pedal, press the clutch pedal (if the vehicle is fitted with a manual transmission) or press the **ON-OFF/CANCEL** switch once. This deactivates the cruise control. The **Cruise Inactive** animation appears, but cruise control retains the speed in its memory.

To regain the stored speed, momentarily rotate the collar to the **RES-ACCEL** position.

Note Holding it in the **RES-ACCEL** position will cause the vehicle to accelerate.

Turning the cruise control off

Press the **ON-OFF/CANCEL** switch twice.

The **Cruise Off** animation appears.

Note

- Pressing the **ON-OFF/CANCEL** switch once pauses the cruise control but keeps the system ready and the speed in the memory.
- A second press turns the system off completely and wipes the speed memory clear.
- A third press turns the system back on to ready, without any speed memory.
- Switching off the ignition deactivates cruise control and clears the speed memory.

WARNING

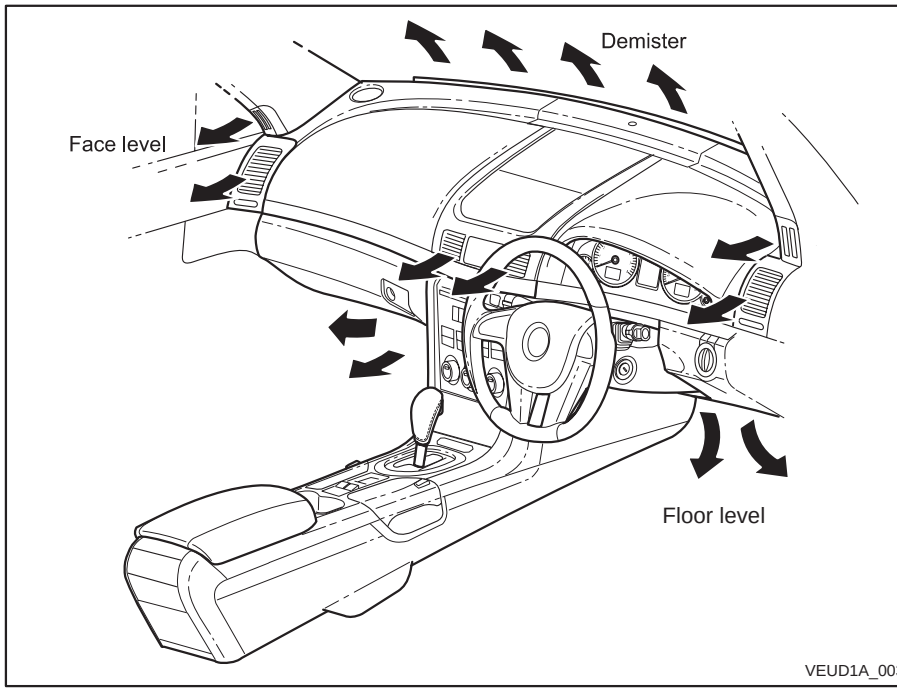
- Do not use the cruise control when road or driving conditions require varying speeds. A constant speed is not practical in heavy or varying traffic or on winding, slippery or rough roads.
- Remember that when **CRUISE ACTIVE** is displayed, the cruise control is maintaining the vehicle's speed. Taking your foot off the accelerator pedal does not reduce the speed. To deactivate the cruise control, either press the brake pedal, press the clutch pedal (if the vehicle has a manual transmission) or push the **ON-OFF/CANCEL** switch.
- The cruise control does not apply the vehicle's brakes. The vehicle may gain speed when going down steep hills.
- When climbing steep hills (particularly when towing), the vehicle may lose speed. In this case, use the accelerator pedal. Release the accelerator pedal when the speed returns to the set speed.
- The cruise control is cancelled if the Electronic Stability Program (ESP®) becomes active, indicated by the **Stability Ctrl Assistance** animated warning on the instrument panel display.

VENTILATION SYSTEM

The vehicle features a flow-through ventilation system for comfort. Under reasonable conditions, it should not be necessary to open the windows at any time. Outside air is drawn into the vehicle through the opening between the bonnet and the windscreen, unless recirculation has been selected. Do not allow this grille to become clogged with debris, such as leaves or snow. Any leaves should be removed each time the vehicle is washed (recommended weekly).

VENTS

The air can be directed to different types of vents.



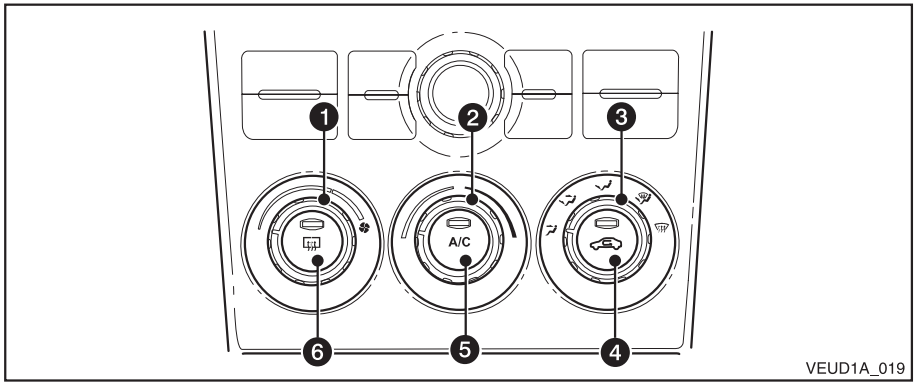
The face vents have adjustable vanes which can be adjusted up or down and left or right to allow directional control of air flow.

These vents have shut-off doors which can also be used to adjust the air volume to suit individual comfort.

The floor-level and demister outlets are fixed, as these direct air to the windscreen, feet and side windows.

*MANUAL HEATER, AIR CONDITIONING**

CONTROLS



❶ Fan speed
❷ Temperature control
❸ Mode control
❹ Recirculation button
❺ Air conditioning (A/C) button*
❻ Rear window demister

Fan speed

Turn the outer button ring ❶ clockwise to increase the fan speed or anticlockwise to reduce it. Turn it fully anticlockwise to turn the fan off.

Note The air conditioning will not work when the fan is off.

Temperature control

Turn the outer button ring ❷ clockwise (warmer) or anticlockwise (cooler).

Mode control

Turn the outer button ring ❸.

Set it to one of the following positions:

Face mode directs air to the dashboard vents.

Bi-level mode directs approximately half of the air to the dashboard vents, then directs most of the remaining air to the floor outlets. Cooler air is directed to the upper outlets and warmer air to the floor outlets.

Floor mode directs most of the air to the floor outlets, with some air directed to the outer dashboard vents and a little air directed to the windscreen and side windows.

Floor and windscreen demist (blend) mode directs the air between the windscreen and floor outlets, with some air supplied to the outer dashboard vents and side window demist outlets.

Windscreen demist mode directs most of the air to the windscreen, with some air directed to the side window demist outlets and outer dashboard vents.

Note When is selected, the air conditioning is switched on automatically to optimise demisting performance. In this mode the air conditioning cannot be switched off and recirculation mode cannot be switched on.

MANUAL HEATER, AIR CONDITIONING cont.*

A/C button*

Press the **A/C** button ❺ to switch the air conditioning on and off.

The lamp in the button illuminates when the air conditioning is on.

Note

- The fan must be on before the air conditioning will work.
- When or is selected the air conditioning is automatically switched on provided the fan is on.
- When A/C is switched on, the air conditioning removes moisture and heat from the air.
- Air conditioning should be switched on for at least 5 to 10 minutes once every 2 weeks to lubricate the air conditioning seals, even in winter.
- The air conditioning cannot be turned off in demist mode. If the A/C button ❺ is pressed, the lamp in the button will flash 3 times and stay on.

Recirculation button

Press the button ❹ to switch the air intake between recirculated air and outside air.

The lamp in the button illuminates when recirculation is selected.

Note

- Recirculation reuses interior air and is therefore not recommended for long periods of time.
- If recirculation mode is used for an extended period of time, the system will automatically let some fresh air into the cabin for ventilation.
- Do not use recirculation if occupants are smoking.
- Recirculation cannot be activated in demist mode. If the button ❹ is pressed, the lamp in the button will flash 3 times and stay off.

Rear window demist button

Press the button ❻ to turn the rear demister on. Press the button again to turn the rear demister off.

The lamp in the button illuminates when the rear demister is switched on.

Note To avoid unnecessary electrical consumption, the rear demister switches off automatically.

MANUAL HEATER, AIR CONDITIONING cont.*

Air conditioning

For a quick cool down when first entering the vehicle on a hot day:

1. Press the **A/C** button ❺ to switch on the air conditioning.
2. Press the button ❹ to switch on the recirculation.
3. Turn the temperature control ❷ to the coldest setting.
4. Turn the fan ❶ to a high speed.
5. Open the windows to allow the hot air to escape.
6. After a minute or two, close the windows, as the air conditioning works most effectively with the windows closed.
7. When the interior cools down, switch off the recirculation and select . This will maintain the best comfort conditions during extended driving.

Note The coolest temperature is achieved when recirculation is selected. This can be used in slow city traffic or when the vehicle is stationary in very hot weather. Occasionally switch recirculation off to allow outside air to enter the vehicle.

Demisting

If the side windows or windscreen fog up on a cold day:

1. Turn the fan ❶ to a high speed.
2. Turn the mode control ❸ to , which automatically turns on the air conditioning.
3. Turn the temperature control ❷ to a warm setting.

This circulates warm, dehumidified air throughout the vehicle, demisting the windows.

Note The air conditioning reduces humidity to improve demisting performance.

MANUAL HEATER, AIR CONDITIONING cont.*

NOTES

Unsealed roads (prevention of dust entry)

When following another vehicle on unsealed roads (and the dust is airborne), select recirculation. If the dust is not airborne select outside air (recirculation off) and set the fan to high speed. This builds up positive air pressure to help prevent dust entry. Ensure in both cases that all windows are closed.

Note Recirculation reuses interior air and is therefore not recommended for long periods of time.

Automatic transmission*

If the vehicle is stopped for long periods in hot weather with the engine running and the air conditioning operating, select **N** (neutral) or **P** (park) with the transmission gear selector.

Hissing

Occasionally a slight hissing sound may be heard for a short time when the air conditioning switches off and pressure in the system equalises. This is normal.

Water

Water condensation forms when the air conditioning is operating, this condensation is discharged underneath the vehicle. Therefore, traces of clean, clear water on the ground underneath the vehicle are normal under these circumstances.

Engine performance/fuel economy

The air conditioning uses power from the vehicle's engine. A small decrease in engine power and a slight increase in fuel consumption will be noticed when the air conditioning is in use. When driving at high speeds, the air conditioning compressor may switch off momentarily so that full engine power is available.

The system is protected by switches that guard against abnormal loads and loss of refrigerant. The air conditioning compressor may switch off until the fault is rectified. Have the system checked by a Holden Dealer if this occurs.

Cigarette smoke

If occupants are smoking, it is recommended that the recirculate position not be used.

Note Recirculate mode reuses interior air and is therefore not recommended for long periods of time.

Regular running

It is important that once every 2 weeks, with the engine running, the air conditioning is switched on for 5 to 10 minutes (even in winter) to lubricate the air conditioning system seals.

Pollen/dust filter

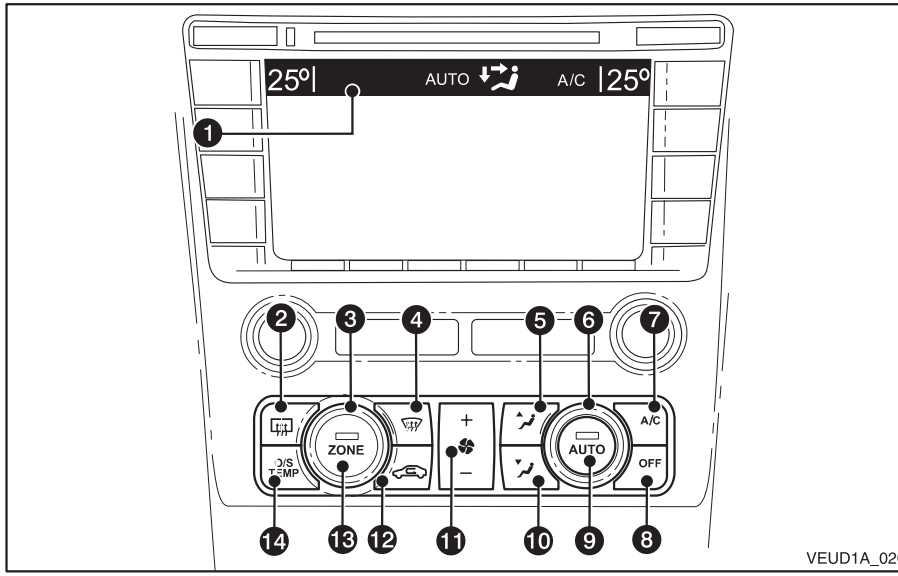
A passenger compartment air filter may be fitted to filter outside air entering the vehicle. The filter removes contaminants such as pollen and dust. This can be fitted at your request by your Holden Dealer.

*CLIMATE CONTROL**

The climate control panel is located in the centre of the dashboard. It is designed to maintain the interior of the vehicle at the desired temperature.

The temperature for the driver's and passenger's side can be adjusted independently.

CONTROLS



1. Display
2. Rear window demister
3. Temperature control – left side
4. Windscreen demister
5. Mode up
6. Temperature control – right side
7. Air conditioning (**A/C**) button
8. **OFF** button
9. **AUTO** button
10. Mode down
11. Fan speed
12. Recirculation button
13. **ZONE** button
14. Outside air temperature display button

CLIMATE CONTROL cont.*

Temperature controls

Turn the temperature controls ❸ and ❻ clockwise (warmer) or anticlockwise (cooler). The temperature can be set between 17 °C and 30 °C (a setting between 22 °C and 24 °C is recommended).

The temperature settings for each side are shown in the display.

Note If turning the temperature control past 30 °C, the display will show **H** (hottest). Turning it past 17 °C, will show **C** (coolest).

ZONE button

Press the **ZONE** button ⓭ to set the climate control to single-zone (SZ) mode or dual-zone (DZ) mode. **SZ** or **DZ** appears in the display to show which mode is set.

Single-zone (SZ) mode

In single-zone operation, all zones are set to the same temperature. The temperature is shown in the display. Adjust it using the temperature control on the driver's side.

Dual-zone (DZ) mode

Dual-zone mode allows different temperatures to be set for the left and right sides or to link them.

To set a different temperature for the passenger's side, adjust the passenger's temperature control.

When linked, the passenger's side temperature setting mirrors whatever the driver's side temperature is set to. To link the passenger's side temperature, press and hold the **AUTO** button ❾ for at least three seconds.

Note Linking automatically occurs if the passenger's and driver's sides are set to the same temperature when the ignition is switched on.

Automatic operation

1. Start the engine.
2. Press the **AUTO** button ❾ if the **AUTO** icon is not already displayed.
3. Use the temperature controls to adjust the temperature. Try an initial setting between 22 °C and 24 °C.
4. Allow the system to stabilise for a few minutes.
5. Adjust the angle of the air vents to your personal requirements. For example, point the vents directly at your body or face for initial cooling and then point them away for a more general effect once you have cooled down.

Note

- The system must be on to make any adjustments.
- The setting does not change between the ignition being switched off or on (except if extreme hot or cold is selected). The setting only needs changing when wanting to alter the comfort level.

CLIMATE CONTROL cont.*

Fan

Press **+** or **-** on the fan button ⓫ to increase or decrease the fan speed.

The fan speed is shown in the display.

Note

- The climate control sets the fan speed automatically. When adjusting the fan speed, the system will revert to semi-automatic operation. The fan speed animation will appear in the display.
- When the engine is not running, the fan speed is limited to conserve the battery.
- To return to full automatic operation, press the **AUTO** button.

Mode buttons

Press the mode buttons ❺ or ⓾ to switch between the following positions:

Face mode directs air to the dashboard vents.

Bi-level mode directs approximately half of the air to the dashboard vents, then directs most of the remaining air to the floor outlets. Cooler air is directed to the upper outlets and warmer air to the floor outlets.

Floor mode directs most of the air to the floor outlets, with some air directed to the outer dashboard vents and a little air directed to the windscreen and side window demist outlets .

Floor and windscreen demist (blend) mode directs the air between the windscreen and floor outlets, with some air supplied to the outer dashboard vents and side window demist outlets.

The setting is shown in the display.

Note

- Manual selection of any mode will revert the system into semi-automatic operation.
- To return to full automatic operation, press the **AUTO** button.

AUTO button

Pressing the **AUTO** button ❾ switches the system to full automatic control.

AUTO appears in the display.

Note

- Adjusting any of the controls manually can impede the system in maintaining the set temperature. It is designed to operate with a minimum of manual adjustment. The **AUTO** icon on the display extinguishes when the system is not operating fully automatically.
- Allow the system to stabilise before changing comfort settings.

CLIMATE CONTROL cont.*

A/C button

Press the **A/C** button ❼ to switch the air conditioning on and off.

A/C appears in the display when the air conditioning is on. **A/C OFF** appears when it is off.

Note

- When or or is selected the air conditioning is automatically switched on.
- To conserve fuel, the air conditioning may be switched off in cold weather. The climate control maintains automatic control of all other functions but does not turn on the air conditioning, even if cabin temperature gets too high.
- When the air conditioning is switched on, it removes moisture and heat from the air.
- Air conditioning should be switched on for at least 5 to 10 minutes once every 2 weeks to lubricate the air conditioning seals, even in winter.
- The air conditioning cannot be turned off in demist mode. If the A/C button ❼ is pressed, the **A/C** symbol will flash 3 times and stay on.
- To protect the compressor, the engine may switch off the air conditioning during heavy acceleration, towing or when there is abnormal **A/C** system pressure.

Recirculation button

Press the button ⓬ to switch the air intake between recirculated air and outside air.

The symbol appears in the display.

Note

- Recirculation reuses interior air and is therefore not recommended for long periods of time.
- If recirculation mode is used for an extended period of time, the system will automatically let some fresh air into the cabin for ventilation.
- Do not use recirculation if occupants are smoking.
- Recirculation cannot be activated in demist mode. If the recirculation button ⓬ is pressed, the symbol will flash 3 times and stay off.

Pollution mode

The system can be set to pollution mode which selects recirculation when the vehicle speed is less than 15 km/h. This helps to prevent exhaust fumes entering the interior in heavy, stop/start traffic.

To switch pollution mode on or off, press and hold the button for four seconds.

When pollution mode is activated, the display shows **Pollution Mode Activated**. When it is switched off, the display shows **Pollution Mode Inactive**.

Windscreen demist button

The climate control cannot determine if the windscreen needs demisting.

Press the button ❹ to demist the windscreen and side windows. The system changes the outlets to demist and switches on the air conditioning.

The symbol appears in the display.

Press the button again to turn the demister off.

Note When is selected, the air conditioning is switched on automatically to optimise demisting performance. In this mode the air conditioning cannot be switched off and recirculation mode cannot be switched on.

CLIMATE CONTROL cont.*

Rear window demist button

Press the button ❷ to turn the rear demister on. Press the button again to turn the rear demister off.

The symbol appears in the display.

Note To avoid unnecessary electrical consumption, the rear demister switches off automatically.

O/S TEMP

Press the **O/S TEMP** button ⓮ to alternate the display between the temperature outside the vehicle and the normal display.

Pressing other buttons to adjust the climate control will also change the display from showing the outside temperature to showing the normal display.

Note Pressing **O/S TEMP** does not stop the system operating automatically.

OFF button

Press the OFF button ❽ to switch the system off.

Press any button to switch it back on.

Note When the system is off, recirculation and the rear window demister can still be switched on.

CLIMATE CONTROL cont.*

NOTES

What the system does

In automatic operation the system responds quickly to cooling and heating requirements. It is not necessary to set a cooler or hotter temperature than required to ensure fast cooling or heating.

The system should be left in automatic operation, so that it can:

- turn the air conditioning on and off,
- vary the temperature of the air entering the cabin,
- recirculate interior air or take air in from outside the vehicle,
- vary the fan speed,
- select the vents through which the air is delivered.

On a cold morning, the system will start in mode with the fan off. As the engine warms up, warm air is directed to the floor outlets. After that, the system changes to and the fan slows down.

The angle of the vents may need adjusting manually, at various times to direct cool air onto your body on hot days, or past your body on mild days.

Engine performance/fuel economy

The air conditioning uses power from the vehicle's engine. A small decrease in engine power and a slight increase in fuel consumption will be noticed when the air conditioning is in use. When driving at high speeds, the air conditioning compressor may switch off momentarily so that full engine power is available.

The system is protected by switches that guard against abnormal loads and loss of refrigerant. The air conditioning compressor may switch off until the fault is rectified. Have the system checked by a Holden Dealer if this occurs.

Adjusting the temperature

When the climate control system has stabilised and you wish to adjust the setting, it is recommended that the adjustment be made one degree at a time until the desired comfort level is reached. Comfort settings depend on clothing, acclimatisation and the angle at which you have directed the vents.

Quick cool down

To aid the climate control when first entering the vehicle on a hot day, open the windows to allow the hot air to escape. After a minute or two, close the windows to allow the system to work more effectively.

Ignition keys

Vehicles equipped with personal identity key* locking systems have the ability to remember individual adjustments for different keys. Refer to *Personal identity keys* in chapter 2.

When the button is pressed, the system identifies the key and sets the climate control to the last adjustments used for that key.

Automatic transmission*

If the vehicle is stopped for long periods in hot weather with the engine running and the air conditioning operating, select Neutral or Park with the transmission gear selector.

CLIMATE CONTROL cont.*

Hissing

Occasionally a slight hissing sound may be heard for a short time when the air conditioning switches off and pressure in the system equalises. This is normal.

Water

Water condensation forms when the air conditioning is operating, this condensation is discharged underneath the vehicle. Therefore, traces of clean, clear water on the ground underneath the vehicle are normal under these circumstances.

Unsealed roads (prevention of dust entry)

When following another vehicle on unsealed roads (and the dust is airborne), select recirculation. If the dust is not airborne select outside air (recirculation off) and set the fan to high speed. This builds up positive air pressure to help prevent dust entry. Ensure in both cases that all windows are closed.

Note Recirculation reuses interior air and is therefore not recommended for long periods of time.

Sensors

The climate control uses three different sensors to maintain the desired temperature.

- The vehicle's sunlight sensor monitors the solar radiation and uses the information to maintain the selected temperature when operating in the AUTO mode by initiating needed adjustments to the temperature, the fan speed and the air delivery system. The system may also supply cooler air to the side of the vehicle facing the sun. The recirculation mode will also be activated, as necessary. Do not cover the sunlight sensor. Refer to *Dashboard layout* previously in this chapter.
- The outside temperature sensor is located in front of the radiator and relies on air moving across the sensor. It can be affected by radiant heat when the vehicle is stationary.
- In order to prevent false temperature readings, the displayed temperature will not change until the following occurs:
  - Vehicle speed is above 16 km/h for 5 minutes.
  - Vehicle speed is above 40 km/h for 2.5 minutes.

  If the vehicle has been switched off for less than 3 hours, the temperature at start up will be recalled from previous operation.
- The in-vehicle temperature sensor is located in the dashboard. Refer to *Dashboard layout* previously in this chapter. This measures the temperature inside the vehicle. The automatic climate control uses this sensor to receive information. It is important not to cover the sensor (for example, with stickers) to make sure it will function accurately.

CLIMATE CONTROL cont.*

Switching the climate control off

If the climate control is switched off:

- background noises may still be noticed coming from the system. It continues to operate to ensure that when the system is switched back on, it will be as close as possible to the temperature set before it was switched off.
- outside air is still selected. This may result in the interior becoming too hot or too cold. If this is the case, select recirculation.

Cigarette smoke

If occupants are smoking, it is recommended that the recirculate position not be used.

Note Recirculate mode reuses interior air and is therefore not recommended for long periods of time.

Regular running

It is important that once every 2 weeks, with the engine running, the air conditioning is switched on for 5 to 10 minutes (even in winter) to lubricate the air conditioning system seals.

Pollen/dust filter

A passenger compartment air filter may be fitted to filter outside air entering the vehicle. The filter removes contaminants such as pollen and dust. This can be fitted at your request by your Holden Dealer.

BLUETOOTH®✻

BLUETOOTH® CAR KIT

The Bluetooth® car kit allows you to answer incoming calls and make outgoing calls on your mobile phone without looking at or touching your mobile phone. Your Bluetooth® voice capable phone need only be inside the vehicle for it to connect to the Bluetooth® car kit.

Bluetooth® wireless technology

Bluetooth® devices communicate using radio waves. The Bluetooth® car kit is specifically designed for mobile phones that support Bluetooth® wireless technology. The Bluetooth® car kit can be used with devices that support the hands-free profile. 'Profile' in this instance means a set of Bluetooth® commands that your mobile phone uses for controlling your Bluetooth® car kit.

The Bluetooth® mobile phone and Bluetooth® car kit do not need to be in a line of sight. For example, your mobile phone may be in your bag while connected to the Bluetooth® car kit. The two devices need to be within a maximum of 10 metres of each other.

Mobile phone functionality

Mobile phones differ in their method of menu navigation. Furthermore, software releases of mobile phones with the same design can vary significantly. Therefore, please carefully read the operating guidelines of your mobile phone. Specifically take note of the functions relating to the topics 'Bluetooth®', 'hands-free' and 'headset mode'.

The capacity of your mobile phone's battery can quickly decrease when the Bluetooth® function is active. If you do not want to use the Bluetooth® function (i.e. when leaving your vehicle for an extended period) then deactivate this function on your mobile phone.

Note Some functions described in this section may not be available on your mobile phone.

Further information

Refer to your mobile phone's owner's manual, mobile phone retailer or mobile phone service provider for information that relates specifically to your mobile phone.

Definitions

Paired: The Bluetooth® module and the phone have stored each other's ID in memory and are available to be connected when within 10 metres of each other.

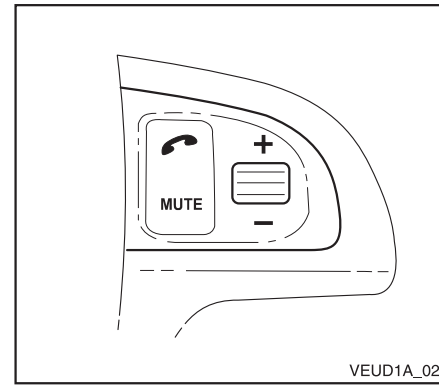
Connected: The mobile phone handset is currently linked with the Bluetooth® car kit. All functions on the Bluetooth® hands-free kit are active.

The *Bluetooth®* word mark and logo are registered trademarks and are owned by the Bluetooth SIG, Inc.

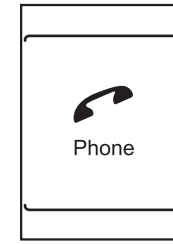
BLUETOOTH®✻cont.

Bluetooth® button

The Bluetooth® button is located on the right-hand spoke of the steering wheel.

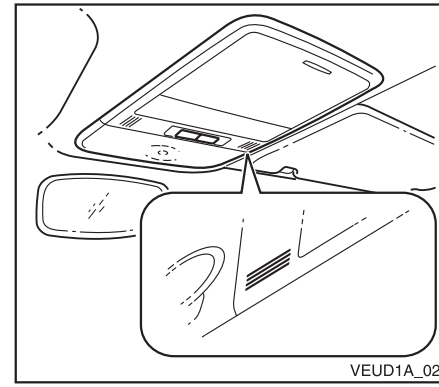


Note When pressing the button with the ignition on, a phone symbol appears in the instrument panel centre display for a few seconds.



Microphone

The microphone is located on the right hand side of the overhead console between the sun visors.



BLUETOOTH®✻cont.

Pairing your mobile phone

The pairing between the Bluetooth® capable mobile phone and the Bluetooth® car kit can be established as follows:

1. Switch on your mobile phone.
2. Switch on the ignition.
3. Perform the following steps on your mobile phone:
   a. Enter the Bluetooth® menu.
   b. Activate the Bluetooth® function.
   c. Press the button on the steering wheel. This will make the vehicle's Bluetooth® system discoverable.
   d. Search for Bluetooth® devices.
   e. Select the device labelled 'Vehicle BT VXX' (VXX is the Bluetooth® module's firmware version number).
   f. Enter the following PIN: 1234. This establishes the connection between your mobile phone and the Bluetooth® car kit.
   g. Set the mobile phone to accept Bluetooth® connection requests automatically without your permission.

If it is not possible to establish a connection, refer to *Troubleshooting* further on in this section.

Note If using a BlackBerry®/PDA phone device, the pairing action may take several seconds longer to complete. Do not interrupt during this process or the pairing will not be successful.

Pairing multiple mobile phones

The Bluetooth® car kit can be paired with up to six mobile phones, but can only be connected to one mobile phone at a time.

When the ignition is switched on, the Bluetooth® car kit searches for the most recently paired mobile phone(s) for 90 seconds. If a recently paired phone cannot be found, the system becomes discoverable to new phones.

Connecting your mobile phone (after initial pairing)

To connect your mobile phone to the Bluetooth® car kit:

1. Move your mobile phone to within 10 metres of the Bluetooth® car kit, preferably inside the vehicle.
2. Ensure that your mobile phone is switched on and the Bluetooth® function on your mobile phone is enabled.
3. Switch on the ignition.
4. Some mobile phones may require pressing the button on the steering wheel.
5. The audio system may momentarily display **voice in** to show the Bluetooth® system has connected to the phone.

Making a call by dialling on your mobile phone handset

When the Bluetooth® car kit is connected to your mobile phone, calls can be made with your mobile phone handset normally. Dial the number on your mobile phone handset.

WARNING

It is recommended that the driver does not use this method when the vehicle is moving. Please check with your local State and Territory laws.

BLUETOOTH®✻cont.

Making a call by voice dialling (voice tags)

To use the voice dial functions of your mobile phone (provided that your mobile phone is capable), entries for dialling phone numbers with voice dialling have to be prerecorded. These voice commands can then be called via the Bluetooth® car kit with the active Bluetooth® connection. To configure voice dialling on your mobile phone, refer to the mobile phone's owner's manual.

To voice dial:

1. Ensure that there is no call in progress.
2. Press the ✆ button once. A tone will be heard indicating readiness to accept a voice input.
3. Speak the name of the person you wish to call, i.e. the voice tag for that phone number recorded on the mobile phone.
4. The Bluetooth® car kit plays back the voice tag and dials the corresponding phone number.

Answering a call

To answer an incoming call, press the ✆ button once.

WARNING

While the call can also be answered using your mobile phone, it is recommended that the driver does not use this method of answering a call when the vehicle is moving.

Automatic answer

If the automatic answer function on your mobile phone is set on, the mobile phone automatically answers the incoming call after one ring.

Rejecting a call

If you do not want to answer a call, press and hold the ✆ button until the ring tone stops.

Placing a call on hold

To place a call on hold and answer a second call, press the ✆ button twice in quick succession.

Press the ✆ button twice in quick succession to switch between the first and second calls or to resume an on hold call.

Ending a call

Press the ✆ button once.

Redialling the last number

To redial the last number dialled:

1. Ensure that there is no call in progress.
2. Press the ✆ button twice.

BLUETOOTH®✻cont.

Private/hands-free

WARNING

Only activate this function if the vehicle is parked.

To switch from hands-free to the mobile phone handset:

1. Press and hold the ✆ button for three seconds.
2. Continue the call on the mobile phone handset.

Press the ✆ button to return to the hands-free function.

Cancelling the Bluetooth® connection

To cancel the Bluetooth® connection, perform any of the following:

- Move your mobile phone outside of the reception range of the Bluetooth® car kit (approximately 10 metres).
- Switch off the ignition and open a door.
- Switch off the mobile phone.
- If no call is in progress, press and hold the ✆ button for three seconds.

Vehicle audio system

The vehicle's audio system volume is automatically set to silent when making or receiving a call. The voice of the caller is heard through the audio system speakers and **VOICE IN** is shown on the audio system display.

As required, the audio system's volume may be adjusted to compensate for variations in the mobile phone signal quality or changes in the background noise within the vehicle.

BLUETOOTH®✻cont.

Troubleshooting

Problem	Cause and solution
Mobile phone will not pair up with the Bluetooth® car kit	• Ignition is switched off. Switch on the ignition. • Bluetooth® is not enabled on the phone. • Already connected to another paired mobile phone Switch off other paired mobile phone(s) in the vehicle. • The mobile phone is not supported. Refer to your Holden Dealer.
Mobile phone will not connect to the Bluetooth® car kit	• Ignition is switched off. Switch on the ignition. • Mobile phone is not paired to the Bluetooth® phone kit. Follow the instructions to pair the mobile phone to the Bluetooth® car kit. • Automatic connection not set on mobile phone. Follow your mobile phone's owner's manual to ensure that authorised connection is enabled for the Bluetooth® car kit.
Voice dialling does not work	• Mobile phone voice dialling is not available on your mobile phone. Refer to your mobile phone's owner's manual. • No voice tags saved to your mobile phone. Refer to your mobile phone's owner's manual. • The background noise is too high. • The voice tag was recorded directly onto the mobile phone. The phone does not now recognise the voice tag when spoken via Bluetooth®. If your mobile phone is capable, record the voice tags in the vehicle via the Bluetooth® car kit. • Mobile phone is not fully compatible with Bluetooth® car kit. Refer to your Holden Dealer.
Redial does not work	• Your mobile phone has no last redialled numbers. Make the initial call from the mobile phone handset. • This feature is not compatible on your mobile phone and the Bluetooth® car kit. Refer to your Holden Dealer.
An echo is present	• Audio system volume is too loud. Turn down the volume on the audio system during the call.

CHAPTER 1B

Audio

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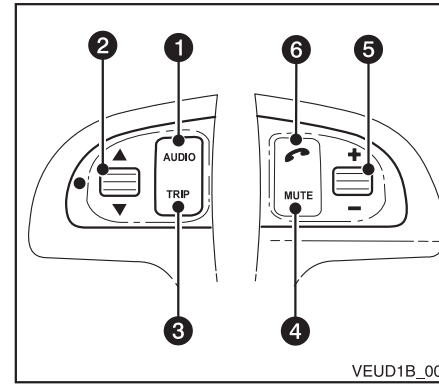
*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

STEERING WHEEL REMOTE CONTROLS (ALL UNITS)



❶ AUDIO Button

Select source: FM1 → FM2 → AM → CD → Front AUX → Rear AUX → FM1 → FM2 → AM → ...

Note

- The front AUX source is only selectable when an AUX device is plugged in.
- CD is only selectable when a CD is loaded.
- When ASM (Automatic Station Memory) is active, then only ASM Radio bands are selected.
- Rear AUX available only if enabled in menu and a source is available.

❷ Scroll wheel:

Note When some trip functions are active the scroll wheel does not operate the audio system.

Radio Mode: Select next/previous station by turning the scroll wheel up/down.

CD Mode: Select next/previous track by turning the scroll wheel up/down.

Push scroll wheel: select next disc in changer (6 CD only).

❸ Change display on instrument panel.

❹ • Mute button*.

Toggle between mute/de-mute of active source.

• NAV button*

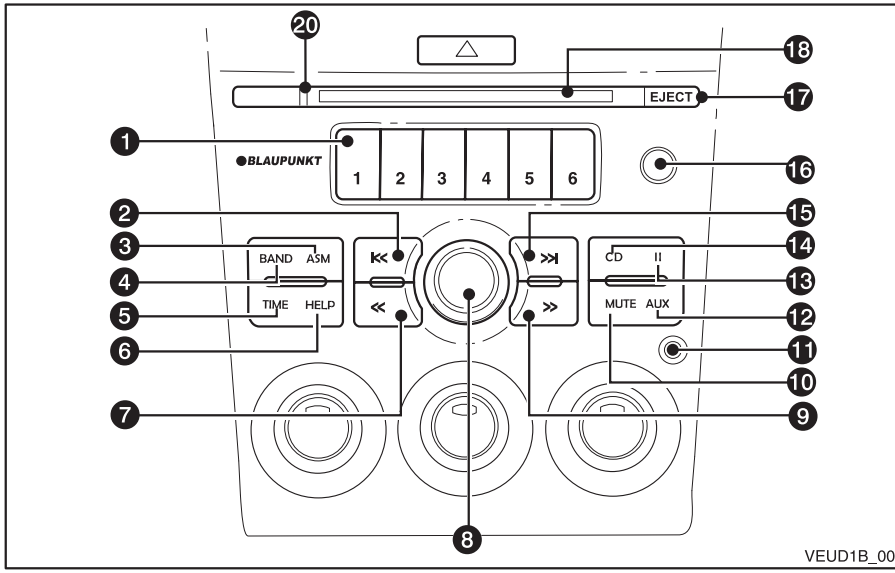
Refer to the Navigation system handbook.

❺ Volume s*croll wheel:* Increase/decrease volume by turning the scroll wheel up/down.

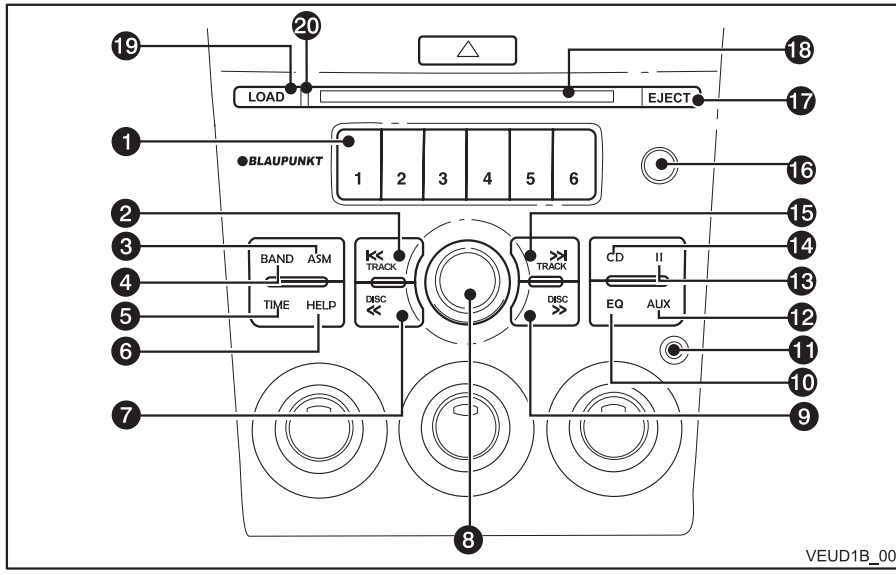
❻ Bluetooth button®* to activate phone call in.

OVERVIEW (LEVEL 1)

OMEGA, SV6 (LEVEL 1 – SINGLE CD)



SS (LEVEL 1 – 6 CD CHANGER) (OPTIONAL OMEGA, SV6)



OVERVIEW (LEVEL 1) cont.

❶ Radio preset buttons 1-6.
❷ Radio Mode: Station seek (down).
CD Mode short press: Previous Track.
❸ Automatic Station Memory storage ASM.
❹ Radio band button.
Radio mode: toggle between FM 1, FM2 and AM band (if ASM is not active).
❺ Short press: Recall clock/calendar information display.
Long press: Enter clock/calendar adjustment mode.
❻ Enter Infotainment Help menu.
❼ Radio Mode: Manual frequency select (down).
CD Changer Mode: Select previous disc (only for Level 1 with 6 CD).
CD Mode long press: rewind (audible).
❽ Volume control (push and turn action).
Push the volume control to enter the options menu.
Turn the volume control to select menu items.
Push the volume control to enter menu items.
❾ Radio Mode: Manual frequency select (up).
CD Changer Mode: Select next disc (only for Level 1 with 6 CD).
CD Mode long press: cue (audible).
❿ – Mute volume (single CD - Omega, SV6).
– EQ equalizer (6 CD changer - SS).
⓫ Socket for front AUX source.
⓬ AUX source button.
⓭ CD pause button.
⓮ CD source button.
⓯ Radio Mode: Station seek (up).
CD Mode short press: Next Track.
⓰ On/off button.
⓱ CD eject button.
CD Changer Long press: To eject all discs.
CD Changer Single press: To eject one disc.
⓲ CD load/remove slot.
⓳ CD load button.
CD Changer Long press: To Load all discs.
CD Changer Single press: To Load one disc.
⓴ CD load indicator light.

IMPORTANT INFORMATION (LEVEL 1)

NOTES ON RADIO OPERATION (ALL UNITS)

- Do not apply any cleaning solution or solvents, or other forms of liquid, to the audio system as this may cause damage to the display and/or electronics, and void the warranty.
- Do not insert anything other than CDs into the CD slot (no foreign objects) as this could cause damage to the CD mechanism. If foreign objects are found in the audio system then warranty will be void.
- Do not insert CDs that have labels attached. Labels can come off and damage the CD mechanism.
- Excessively scratched or dirty CDs may not play correctly.
- Under direct sunlight the audio system display may become difficult to read.

SECURITY CODE (ALL UNITS)

Your audio system includes an electronically coded security system.

This electronically links the audio system to your vehicle. Under normal circumstances you will be unaware of its operation and shouldn't need to take any action to enable the audio system to work, even if the vehicle's battery has been disconnected and reconnected.

When the electronic link between the vehicle and the audio system is interrupted, the display 'Security Lockout Active' will be shown. In this case, please contact your Holden Dealer.

Security Indicator Light

Note For added security a small red light ⓴ on the audio system blinks while the ignition is off.

INFORMATION DISPLAY (LEVEL 1)

All of the relevant information for radio and CD can be found on the vehicle's Information Display located on the dashboard.

The calendar can be temporarily displayed by pressing the **TIME** button ❺.

SETTING THE CLOCK & CALENDAR (LEVEL 1)

Note The clock and calendar can be adjusted when the audio system is either on or off.

Adjust the clock and calendar as follows:

1. Press and hold the **TIME** button ❺ for more than 2 seconds. The display will show the Set Clock screen. The hours are flashing.
2. Adjust the hours by turning the Volume Control Dial ❽.
3. To adjust the minutes, first press the Volume Control Dial ❽. The minutes are flashing.
4. Adjust the minutes by turning the Volume Control Dial ❽.
5. Repeat this procedure for the date, month and year.
6. To exit this mode, press the **TIME** button ❺ once more.

Note The audio system will automatically exit this mode if no adjustments are made for 8 seconds.

SWITCHING ON/OFF (LEVEL 1)

ON/OFF button

Switch the audio system on and off by pressing the ⏻ button ⓰.

On/Off (Using ignition key)

The audio system can operate when the ignition key is turned to the Accessories position. When the vehicle's Accessories Control is turned off by turning the ignition key off (and opening the driver's door) the audio system (if operating) will be switched off.

When the key is switched to the Accessories position again, the audio system will also be switched on.

On/Off (Without ignition key)

The audio system can also be switched on and off without using the vehicle's ignition key by pressing the ⏻ button ⓰. The audio system will operate for approximately 1 hour. Once this period has elapsed, the audio system switches off automatically and will not operate until the ⏻ button ⓰ is pressed again, or the ignition key is again in the Accessories or Ignition position.

On/Off when Accessories or Ignition is on

When the ignition key is in the Accessories or Ignition position the audio system can be turned on (if off) with the following buttons:

- ⏻ button ⓰.
- **CD** button ⓮.
- **BAND** button ❹.
- **AUX** button ⓬.

AUDIO SETTINGS (LEVEL 1)

SOURCE (MODE) SELECTION

The radio mode can be selected by any of the following actions:

- Pressing the ⏻ button ⓰ if the previously played source was radio.
- Pressing the **BAND** button ❹.
- Pressing the **ASM** button ❸.

The CD mode can be selected by any of the following actions:

- Pressing the ⏻ button ⓰ if the previously played source was CD.
- Pressing the **CD** button ⓮.

The AUX mode can be selected by any of the following actions:

- Pressing the ⏻ button ⓰ if the previously played source was AUX and an AUX source is still plugged in.
- Pressing the **AUX** button ⓬.

AUDIO SETTINGS (LEVEL 1) cont.

Volume

Turning the Volume Control Dial ❽ clockwise will increase the volume, turning it anti-clockwise will decrease the volume.

Independent Tone Memories*

This audio system is equipped with Independent Tone Memories.

The audio settings can be set independently for each listening mode such as AM, FM and CD.

After all individually preferred tone settings have been stored using one particular ignition key, the same procedure can be repeated with different settings for the other ignition key*.

Boost *(6 CD CHANGER)*

1. Access the Option menu by pressing the Volume Control Dial ❽ when the audio system is switched on.
   The menu item 'AUDIO' is highlighted.
2. Press the Volume Control Dial ❽ to access the audio menu.
   The menu item 'Boost' is highlighted.
3. Press the Volume Control Dial ❽ to access the boost setting.
4. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the boost setting. Boost can be changed from -2 to +2 through 0 in step size of 1.
5. Press the Volume Control Dial ❽ to exit and store the setting.
6. To exit the menu, select the 'BACK' option or wait 8 seconds.

Bass (single CD)

1. Access the Option menu by pressing the Volume Control Dial ❽ when the audio system is switched on.
   The menu item 'AUDIO' is highlighted.
2. Press the Volume Control Dial ❽ to access the audio menu.
   The menu item 'BASS' is highlighted.
3. Press the Volume Control Dial ❽ to access the bass setting.
4. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the bass setting. Bass can be changed from -6 to +6 through 0 in step size of 1.
5. Press the Volume Control Dial ❽ to exit and store the setting.
6. To exit the menu, select the 'BACK' option or wait 8 seconds.

Treble (Single CD)

1. Access the Option menu by pressing the Volume Control Dial ❽ when the audio system is switched on.
   The menu item 'AUDIO' is highlighted.
2. Press the Volume Control Dial ❽ to access the audio menu.
3. Turn the Volume Control Dial ❽ clockwise to highlight 'TREBLE'.
4. Press the Volume Control Dial ❽ to access the treble setting.
5. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the treble setting. Treble can be changed from -6 to +6 through 0 in step size of 1.
6. Press the Volume Control Dial ❽ to exit and store the setting.
7. To exit the menu, the 'BACK' option or wait 8 seconds.

AUDIO SETTINGS (LEVEL 1) cont.

Balance

To shift the sound towards the right or the left:

1. Enter the Option menu by pressing the Volume Control Dial ❽ when the radio is switched on.

   The menu item 'AUDIO' is highlighted.
2. Press the Volume Control Dial ❽ to access the audio menu.
3. Turn the Volume Control Dial ❽ clockwise to highlight 'BALANCE'.
4. Press the Volume Control Dial ❽ to access the balance setting.
5. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the balance setting. Balance can be changed from L6 (left) to R6 (right) through 0 in step size of 1.
6. Press the Volume Control Dial ❽ to exit and store the setting.
7. To exit the menu, select the 'BACK' option or wait 8 seconds.

EQ EQUALIZER FUNCTION (6 CD CHANGER - SS)

The audio system is equipped with five pre-programmed equalizer curves. Each of these curves have been factory-programmed to enhance a particular style of music. However it may be used with any type. To turn this function on or off, or to scroll through the five EQ curves, press the **EQ** button ❿ one or more times. The five pre-programmed settings are:

• Rock. • Pop. • Jazz. • Classic. • Vocal. • and off.

Equalizer Off

The equalizer function can be turned off by pressing the **EQ** button ❿ one or more times until 'EQ Off' appears on the display. It can also be turned off by pressing and holding the **EQ** button ❿ for more than two seconds.

LOUDNESS CONTOUR CIRCUIT

This audio system is equipped with an automatic loudness contour circuit, to enhance the Bass and Treble response at low volume levels.

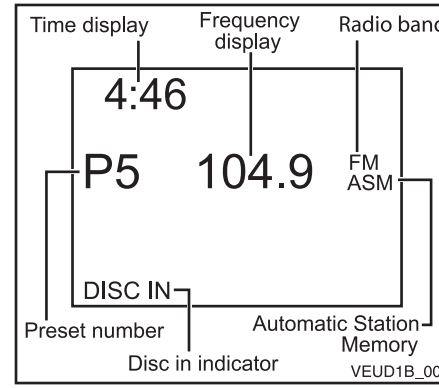
MUTE

The MUTE button ❿ (Omega, SV6) instantly reduces the volume of the radio by a large amount (20 decibels). While the volume is muted, 'MUTED' is shown on the display. Refer to *Steering wheel remote controls* previously in this chapter, for operation of the MUTE button on the steering wheel.

Mute can be cancelled by pressing the button again, by increasing the volume using the Volume Control Dial ❽, or by turning the audio system off and on.

RADIO OPERATION (LEVEL 1)

RADIO DISPLAY



Selecting a Radio Band

Press the BAND button ❹ repeatedly to select one AM and two FM bands (FM1 & FM2). The chosen band will be shown on the display. If the ASM mode is active ('ASM' appears on the display).

For further information on the ASM mode, see the *Automatic Station Memory* further on in this chapter.

Manual Tuning

- Press the ≫ button ❾ or the ≪ button ❼ to tune the frequency band up or down. The frequency changes in steps of 9 kHz for AM and 0.1 MHz for FM.

Automatic Seek Tuning

This function seeks radio stations automatically.

1. Press the ≫| button ⓯ to select the next higher frequency radio station automatically.
2. Press the |≪ button ❷ to select the next lower frequency radio station automatically.

Auto/Local/Distance selection ('Seek Sens' in the menu)

The LOCAL function reduces the radio's seek tuning sensitivity in AM and FM modes. This will cause the SEEK tuning to stop only on stations with strong signals i.e. city area.

If you are performing a SEEK function in an area where few or no stations can be found when LOCAL ('LO') is active, you can choose DISTANCE ('DX') so that weaker i.e. country area stations may also be found.

You can also choose the AUTO option. With AUTO selected, the radio first searches for local stations and, if no stations can be found, the radio searches for all stations.

Note

- If local stations are found using auto mode, the radio will not search for distance stations.
- It is advisable to set the seek sensitivity to distance (DX) mode, so that all stations are found. Unless you are trying to avoid weaker stations.

RADIO OPERATION (LEVEL 1) cont.

The Local/Distance selection has no effect when the ASM search feature is being used.

1. Access the Option Menu by pressing the Volume Control Dial ❽ when the radio source is selected.
2. Highlight the menu item 'SEEK SENS' by turning the Volume Control Dial ❽ clockwise.
3. Press the Volume Control Dial ❽ to access the seek sensitivity setting.
4. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to choose one of the settings 'LO' (local), 'DX' (distance) or 'AUTO'.
5. Press the Volume Control Dial ❽ to exit and store the seek sensitivity setting.
6. To exit the Menu, select the 'EXIT 'option or wait 8 seconds.

Storing Stations

The radio is equipped with 30 stations presets.

- 6 x FM1
- 6 x FM2
- 6 x AM
- 6 x FM ASM (Automatic Station Memory FM Stations)
- 6 x AM ASM (Automatic Station Memory AM Stations)

Storing a Radio Station into a Preset

1. Select the desired radio band, AM, FM1 or FM2 using the **BAND** ❹ button.
2. Tune to the desired station by means of:
   - Automatic seek tuning or
   - Manual tuning.
3. Press and hold the desired preset button **1** to **6** ❶ until the selected preset number is displayed. A beep sounds, indicating that the chosen radio station has been stored into the preset. The previously stored station is replaced. The selected preset number '1' to '6' appears on the display.
4. Store the other preset buttons in the same way.
5. Repeat the same procedure for the other radio bands AM, FM1 and FM2.

Recalling Stored Stations

Select a radio band, AM or FM.

1. Briefly press the desired preset button **1** to **6** ❶.

To select one of the stations stored with Automatic Station Memory:

1. Select the AM or FM radio band.
2. Press the **ASM** button ❸.
3. Now press the desired preset button **1** to **6** ❶.

RADIO OPERATION (LEVEL 1) cont.

Automatic Station Memory (ASM) ❸

This feature allows the storage of an additional 6 AM and 6 FM radio stations. It is of great benefit when travelling long distances, e.g. on holidays, since you can store the strongest radio stations without knowing their frequency. This function does not delete the stations already stored on FM1, FM2 or AM.

Using Automatic Station Memory

1. Select the desired radio band AM or FM with the **BAND** ❹ button.
2. Press the **ASM** button ❸ for at least two seconds until a beep sounds. Search tuning starts and 'SEARCH', followed by the number of found stations, appears on the display.

After the ASM process is finished, the six strongest stations found in the area are stored. The radio will play the station stored on preset **1**.

If you have travelled beyond the range of the stored stations, you may wish to repeat the process again to store new stronger stations.

To alternate between the ASM radio stations and your normally stored radio stations (on FM1, FM2 or AM):

- Briefly press the **ASM** button ❸.

Whenever you are using the AM ASM or the FM ASM bands, 'ASM' will also be shown on the display.

You can also store stations manually in the ASM station presets (see 'Storing a Radio Station into a Preset').

ANTENNA INFORMATION

Refer to *Antenna Information* further on in this chapter.

RADIO RECEPTION

Due to varying reception locations, car radios have performance limitations that may occasionally create the impression that your radio is malfunctioning. To assist you in understanding what can be expected from your radio, we have set out below how reception may vary from time to time and under certain conditions.

AM and FM

There are two types of radio broadcasting frequencies, AM (Amplitude Modulation) in which the amplitude of the signal is varied to produce the sound and FM (Frequency Modulation) in which the frequency is varied to produce the sound.

Range

AM broadcasts tend to follow the earth's curvature and also reflect from the upper atmosphere, which enables long range reception, especially after sunset.

FM transmissions are basically line-of-sight (similar to TV signals) and are reflected by buildings, mountains etc., but not by the upper atmosphere.

RADIO OPERATION (LEVEL 1) cont.

Interference

Interference is caused by either natural or man made electrical disturbances. This can affect the amplitude of the reception signal. AM signals are more prone to this type of interference than FM signals. This type of interference has little or no effect on the frequency of the reception signal, thus AM is susceptible to interference from power lines, fluorescent lighting, neon signs, traffic light control circuits, overhead tram wires and electrical storms. With FM reception, these amplitude variations are filtered out, leaving a relatively clear signal, (refer to 'Peculiarities of FM Mobile Reception') which is one of the major advantages of FM broadcasts.

Peculiarities of FM Mobile Reception

A mobile FM receiver cannot be expected to continuously provide the quality of FM reception you may have experienced with your home receiver. Contrary to popular opinion, FM broadcasts are not static free, and although your radio has a built-in electronic interference absorption circuit, some static will occur from time to time, especially in areas without a direct line of sight to the transmitter.

There are two phenomena that are characteristic of FM reception:

- **Flutter** – When FM signals are reflected by solid objects, they can pass through areas of 'shadow' caused by tall buildings and/or hilly terrain, which effectively blocks out the signal. As the vehicle passes in and out of shadow areas, the signal level will vary at a rapid rate, creating a flutter type of interference to the signal.
- **Distortion (Multipath)** – Distortion may occur when the direct signal from the transmitter and a reflected signal reach the antenna at the same time and either cancel or support each other, like ghosting on a TV. This results in intermittent distortion of the signal while moving or in constant distortion when stationary, e.g. at a traffic light or when parking. Should this distortion occur while stationary, moving the vehicle approximately 1 or 2 metres usually corrects the problem.

To reduce the effects of interference and/or poor signal strength, several features have been included within the radio which work automatically when needed:

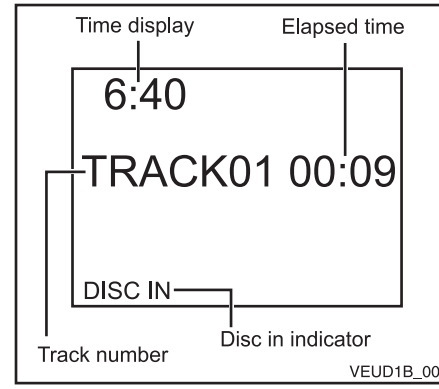
- **Noise Blanking Circuit** (FM interference suppression) – This radio has been equipped with a Noise Blanking Circuit to reduce pulse interference.
- **Soft Muting Circuit** – The built-in Soft Muting Circuit will reduce the FM stereo separation and treble response if the signal from the radio station deteriorates. This effect lessens the amount of audible hiss and background noises that are usually heard with weaker FM signals.
- **Multipath Detection Circuit** – If repeated multipath signals are received, the circuitry will switch the radio into MONO mode and slightly reduce the treble response. It will gradually return to STEREO with full treble response when the multipath conditions fade.

SINGLE CD OPERATION (LEVEL 1)

The CD drive is built into the audio system and CDs are loaded through the CD slot ⓲ on the front face of the audio system.

Note The CD drive is designed for standard 12 cm CDs only. Using incorrect sized CDs (e.g. 8 cm or 3 inch CDs) may damage the drive or disc, even if an adapter is used.

CD Display Track Info Mode



Loading a CD

To load a CD into the CD Changer, insert the CD with the label surface facing upwards into the CD slot ⓲ until the mechanism pulls the CD inside and it begins to play.

Ejecting a CD

Briefly press the **EJECT** button ⓱.

Note If an ejected CD is not removed within 10 seconds, it will be automatically reloaded to protect it from accidental damage.

Playing CDs

- Press the ⏻ button ⓰ if the previous mode was CD.
- Press the **CD** button ⓮ if the vehicle's accessories or ignition is on.

Stopping a CD

- Press the **BAND** button ❹ to stop CD playback and resume in radio mode, or press the ⏻ button ⓰.

Pausing a CD

- Press the ▮▮ (Pause) button ⓭ to pause the CD playback.
  'PAUSED' will be shown on the display. Press it again to continue playing the CD.

CD Endless Playback

When the player reaches the end of a CD, it automatically returns to the start and plays the CD again.

Track Selection

1. Press the ⏭ button ⓯ to go on to the next track of the current CD, or press the button repeatedly until the desired track is reached.
2. Press the ⏮ button ❷ to go back to the start of the current track, or press the button repeatedly until the desired track is reached.

SINGLE CD OPERATION (LEVEL 1) cont.

Fast Forward/Fast Back (Track Cue/Review)

1. Press and hold the ≫ button ❾ or the ≪ button ❼ to rapidly move forwards or backwards within the current track.

CD Random

When this feature is selected, all tracks on the current CD will be played in random order.

1. Press the preset button ❶ **RANDOM** to randomly play all tracks on the CD.

To cancel this function:

2. Press the preset button ❶ **RANDOM** again.

If the buttons ≫| ⓯ or |≪ ❷ are pressed while in random play mode, the next random selection will be made immediately.

Track Repeat

1. Press the preset button ❶ **REPEAT** to replay the current track continuously.

Press it again to cancel Track Repeat.

Changing CD Mode Display

You can choose preferred display modes for CD operation:

- Press the preset button ❶ **DISPLAY MODE** repeatedly until the desired display mode is shown.
- Basic mode with track number and clock display.
- Normal mode with track number, playtime and clock display.
- Track info mode with track number and track name.

Note CD Text can only be shown when the appropriate data is stored on the CD. If no data is present, 'No Text' is displayed.

CD Player Memory

Under severe vibration, the CD laser may not be able to maintain the extremely precise focus needed to read the tiny pits on the surface of the CD. When the laser focus is temporarily lost, the data that are read from the CD will also be temporarily interrupted. Your CD Player is therefore fitted with a memory buffer that holds approximately seven seconds of music which is used to prevent interruption over severely bumpy surfaces. Should the severe vibration last for longer than seven seconds, the memory buffer may become empty and playback will be interrupted or stopped until the mechanism has time to refocus, read the disc and refill the memory buffer. This situation should very rarely occur under normal driving conditions.

Playing recordable CDs (CD-Rs or CD-RWs)

It is possible to play CD-Rs on this audio system, however, depending on the type/condition of the recording equipment and the blank disc used, some CD-Rs may not play consistently or at all. CD-RWs (rewritable CDs) are not compatible with this audio system and will not play. Some copy controlled CDs may not play consistently or not at all.

6 CD CHANGER OPERATION (LEVEL 1)

6 CD Changer Operation

The CD Changer holds up to six CDs at one time. The Changer is built into the audio system and CDs are loaded through the single slot ⓲ on the front face of the audio system, after pressing the **LOAD** button ⓳ (refer to 'Loading a CD' on the next page).

Note The CD Changer is designed for standard 12 cm CDs only. Using incorrect sized CDs (e.g. 8 cm or 3 inch CDs) may damage the Changer or the disc, even if an adapter is used.

CD Display

For CD changer operation you can choose between different CD displays.

To choose one of the display modes,

- Press the preset button ❶ **DISPLAY MODE** repeatedly until the desired display mode is shown.

For CD operation, the following modes are available:

- Basic mode with track number and clock display.
- Normal mode with track number and playtime.
- Track info mode with track number, and track name. Track name can only be displayed when the appropriate data is stored on the CD (CD text).
- Disc info mode with track number, and name of CD. The CD name can only be displayed when the appropriate data is stored on the CD (CD text).
- Track information display mode is unavailable if a track without information is played.
- Track information mode is cancelled if a track without information is played.

For MP3-CD operation the following modes are available:

- Normal mode with track number and clock display.
- Track info mode with track number and playtime.
- Song info mode with song title and track number.
- Folder info mode with folder number and folder name. Folder name can only be displayed when the appropriate data is stored on the CD (MP3 ID-tag).
- Artist info mode with track number and artist name. Artist name can only be displayed when the appropriate data is stored on the CD (MP3 ID-tag).
- Album info mode with track number, and album title.

Note There are limitations on the number of sub-directories that can be read. Not all MP3 CDs are compatible.

Scroll text

When the title displayed is to long for the infotainment screen the missing text can be viewed .

Press the preset button ❶ **SCROLL TEXT** repeatedly to see the start or finish of the title.

CD Display Symbols

The display shows DISC and six numbers that represent the six CD storage locations within the CD Changer. When a storage location within the CD Changer has no disc loaded, '–' is displayed. When a CD is loaded into the Changer the number of the CD is displayed to show that there is a CD loaded in that storage location. When a CD is playing, its number is highlighted on the screen.

6 CD CHANGER OPERATION (LEVEL 1) cont.

Loading a CD

To load a CD into the CD Changer, briefly press the **LOAD** button ⓳. When the Changer is ready to accept the CD, 'Insert Disc' will be displayed.

The Load Indicator Light ⓴ will flash green, and the audio system will beep twice. Insert the CD with the label surface facing upwards, into the CD slot ⓲ until the mechanism pulls the CD inside and it begins to play.

The LOAD function can be cancelled by briefly pressing the **EJECT** button ⓱, turning the audio system OFF, or it will cancel automatically if no disc has been inserted within 10 seconds after the 'Insert Disc' message is displayed.

Loading all CDs

A function has been included to allow the loading of up to six CDs without having to repeatedly press the **LOAD** button.

To start the 'Loading All Discs' function, push and hold the **LOAD** button ⓳ for more than 2 seconds until a beep sounds and the display shows 'Loading All Discs'. The display, beeps and Load Indicator Light ⓴ will prompt you when it is time to insert each CD.

This function is cancelled automatically when no CD has been inserted for 10 seconds, by briefly pressing the **EJECT** button ⓱, or by turning the audio system OFF.

Note It is possible to insert and load CDs while the vehicle's ignition key is turned off. The audio system will turn off after loading the CDs.

Ejecting a CD

To remove the currently selected CD, briefly press the **EJECT** button ⓱. When the CD is ready for removal from the CD slot ⓲, 'Remove Disc' will be displayed. The Eject Indicator Light ⓴ will flash and the audio system will beep twice.

If you wish to eject a CD that is not currently playing, briefly press the **EJECT** button ⓱ followed by the button **1** - **6** ❶ that represents the CD you wish to eject within 3 seconds.

The **EJECT** function can be cancelled by briefly pressing the **LOAD** button ⓳ or by turning the audio system OFF.

Note If an ejected CD is not removed within 10 seconds, it will be automatically reloaded to protect it from accidental damage.

Ejecting all CDs

All CDs within the CD Changer can be ejected by pushing and holding the **EJECT** button ⓱ for more than 2 seconds until 'Ejecting All Discs' appears on the display and a beep sounds. The display, beeps and Eject Indicator Light ⓴ will prompt you when it is time to remove each CD.

The 'Ejecting All Discs' function can be cancelled by briefly pressing the **LOAD** button ⓳, or by turning the audio system OFF.

Note It is possible to eject one or more CDs when the vehicle's ignition key is off, but the audio system will switch off after removing the CD(s).

6 CD CHANGER OPERATION (LEVEL 1) cont.

Playing CDs

- Press the ⏻ button ⓰ if the previous mode was CD.
- Press the **CD** button ⓮ if the vehicle's accessories or ignition is on.
- Press the **CD** button ⓮ if the vehicle's accessories or ignition is off to turn on the audio system in CD source.

Stopping a CD

Press the **BAND** button ❹ to stop CD playback and resume in radio mode or press the **AUX** ⓬ button to stop CD playback and resume in AUX mode, or press the **ON/OFF** button ⓰.

Pausing a CD

Press the ⏸ button ⓭ to pause the CD playback. 'Paused' will be shown on the display. Press it again to continue playing the CD.

CD Endless Playback

When the player reaches the end of a CD it automatically loads and plays the next CD. If no other CD is available, it returns to the start and plays the current CD.

Disc Selection

When more than one disc has been loaded into the CD Changer, you can select the one to play by the following methods:

- Briefly press the ≫ button ❾ to select the next disc.
- Briefly press the ≪ button ❼ to select the previous disc.

Folder Selection (when using MP3-Discs)

When listening to an MP3-CD you can select folders by:

- Press and hold the ≫ button ❾ longer than 2 seconds to select the next folder on the MP3-CD.
- Press and hold the ≪ button ❼ longer than 2 seconds to select the previous folder.

Track Selection

Press the ≫| button ⓯ to go to the next track of the current CD, or press it repeatedly until the desired track is reached.

Press the |≪ button ❷ to go back to the start of the current track, or press it repeatedly until the desired track is reached.

Fast Forward/Fast Back (Track Cue/Review)

Press and hold the ≫| ⓯ or |≪ ❷ button to rapidly move forward or backward within the current track.

6 CD CHANGER OPERATION (LEVEL 1) cont.

Choosing Track and Folder using the MP3-Browse Mode

When listening to MP3-CDs, you can browse the directories (folders) and tracks of the MP3-CD to find a track more easily.

To choose a track in the actual folder:

1. Press the button **3 BROWSE MP3** ❶.

The files of the currently played folder are shown. The actual track is highlighted.

2. Highlight the desired track by turning the Volume Control Dial ❽.
3. Press the Volume Control Dial ❽.

   The chosen track will be played.

To choose a track in a different folder:

1. Press the button **3 BROWSE MP3** ❶.

   The files of the currently played folder are shown. The actual track is highlighted.
2. Highlight the first entry (FOLDER LIST) by turning the Volume Control Dial ❽.
3. Press the Volume Control Dial ❽.

   The list of the folders of the actual CD is displayed.
4. Highlight the desired folder by turning the Volume Control Dial ❽.
5. Press the Volume Control Dial ❽.

   The files of the chosen folder are shown.
6. Highlight the desired track by turning the Volume Control Dial ❽.
7. Press the Volume Control Dial ❽.

   The chosen track will be played.
8. To exit MP3-Browse Mode press the button **3 BROWSE MP3** ❶.

   Note In MP3-browse mode, the currently playing track is displayed at the bottom of the MP3 browse mode screen. Pressing ⏮ ❷ or ⏭ ⓯ or using the steering wheel remote control scroll wheel ❷, will change the currently played track but will not move the highlighted track.

CD Repeat

You can choose between different modes for repeat:

- REPEAT TRACK,
- REPEAT DISC, and
- REPEAT FOLDER (only when using MP3-CDs).
- Press the preset button ❶ **REPEAT** until the desired repeat function is activated.

To cancel this function, press the preset button ❶ **REPEAT** until the repeat function is deactivated.

6 CD CHANGER OPERATION (LEVEL 1) cont.

CD Random

You can choose between different modes for random play:

- RANDOM TRACK for CD,
- RANDOM DISC for CD,
- RANDOM IN DISC for MP3-CDs and
- RANDOM IN FOLDER for MP3-CDs.

1. Press the preset button ❶ **RANDM** until the desired Random function is activated.

To cancel this function, press the preset button ❶ **RANDM** until the Random function is deactivated.

If the button ⏭ ⓯ is pressed while in random play mode, the next random selection will be made immediately .

AUX OPERATION (LEVEL 1)

AUX operation

This unit is equipped with an AUX input socket ⓫ at the front of the audio system. You can connect any suitable audio source to the AUX input socket e.g. portable MP3 player. There is also a secondary AUX input connector on the rear of the audio system for use with an optional DVD player. This is called the 'Rear AUX' in the menu and can be enabled/disabled via the menu. You can select the DVD source sound through the audio system speakers (all models).

Starting AUX operation

1. Press the **AUX** mode button ⓬.

When last used AUX source was front AUX and a device is still plugged into the front AUX input socket, then front AUX is chosen.

If rear AUX is enabled and there is no device plugged in the front AUX input socket the audio system switches to the DVD player source (if a DVD is fitted). If no device is plugged into the front AUX input socket, AUX operation is terminated and the last used source is used again. If you have disabled rear AUX (see section 'Enable/disable rear AUX'), the audio system always switches to front AUX.

To switch between front and rear AUX:

- Press the **AUX** mode button ⓬ to switch between the front AUX input socket (only applicable if devices are plugged in) and rear AUX*.

Note

- The sensitivity of the AUX input socket is tuned to suit "line level" audio sources. Hence "headphone level" audio sources will not be as loud in volume.
- Adjust the portable device volume level in conjunction with the audio system level to obtain the correct volume level.

Enable/disable rear AUX*

You can disable the rear AUX input socket as an audio source.

1. Access the Option menu by pressing the Volume Control Dial ❽ when the audio system is switched on.
2. Highlight the menu item 'REAR AUX' by turning the Volume Control Dial ❽ clockwise.
3. Press the Volume Control Dial ❽.
4. Turn the Volume Control Dial to switch between the setting 'ON' or 'OFF'.
5. Press the Volume Control Dial ❽ to confirm your setting.
6. To exit the menu, select the 'EXIT' option or wait 8 seconds.

ADDITIONAL FEATURES (LEVEL 1)

Speed Dependent Volume (SDV)

The SDV system adjusts the audio system volume depending on the vehicle's speed. As the vehicle's speed increases, the volume of the audio system also increases to compensate for the driving noise.

Note This feature will never completely compensate for the driving noise. There are other variable factors such as road surface, wind noise, windows open, engine speed etc., that may alter the interior noise for any given road speed.

For this reason, there are different levels of compensation available to allow you to find one that suits your average driving conditions best.

You can select the compensation rates between 'OFF' and 'CUR 6 (Curve)' (maximum compensation) in the Options Menu.

To alter the SDV setting:

1. Enter the Options menu by pressing the Volume Control Dial ❽ when the audio system is switched on.

   The menu item 'AUDIO' is highlighted.
2. Turn the Volume Control Dial ❽ clockwise to highlight 'AUD SETUP'.
3. Press the Volume Control Dial ❽ to access the audio setup menu.
4. Turn the Volume Control Dial ❽ clockwise to highlight 'SD VOLUME'.
5. Press the Volume Control Dial ❽ to access the SDV setting.
6. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the SDV setting.
7. Press the Volume Control Dial ❽ to exit and store the setting.
8. To exit the menu, select the 'BACK' option or wait 8 seconds.

Dynamic Distortion Limiter (DDL)

Your audio system is equipped with a system that limits the amount of amplifier distortion you can hear. When this feature is turned on, it continuously monitors the quality of the signal to the speakers. When the signal distortion exceeds preset limits, the audio system will automatically limit or reduce the volume until the distortion is minimised. The system is dynamic so that it is always monitoring the sound in order to deliver the selected volume level without distortion. Under some circumstances distortion may be heard for a very short time until the system has taken the necessary steps to limit it.

Note The main source of distortion in music is the low frequency bass caused by drums or large instruments. Tracks that feature very strong bass may trigger the distortion limiting system which will then reduce the volume to minimise the distortion. Increasing the Bass control may also result in a reduced volume level due to the emphasised bass. If desired, the DDL can be turned off in these circumstances so that the audio system will deliver a higher volume level. Naturally, distortion will also be increased. You can select the distortion limiter rates between 'OFF' and 'CUR 3 (Curve)' (maximum limiting) in the Options Menu.

ADDITIONAL FEATURES (LEVEL 1) cont.

To turn distortion limiting on and off:

1. Enter the Options menu by pressing the Volume Control Dial ❽ when the audio system is switched on.
   The menu item 'AUDIO' is highlighted.
2. Turn the Volume Control Dial ❽ clockwise to highlight 'AUD SETUP'.
3. Press the Volume Control Dial ❽ to access the audio setup menu.
4. Turn the Volume Control Dial ❽ clockwise to highlight 'DDL'.
5. Press the Volume Control Dial ❽ to access the DDL setting.
6. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the DDL setting.
7. Press the Volume Control Dial ❽ to exit and store the setting.
8. To exit the menu, select the 'BACK' option or wait 8 seconds.

Display settings

You can set the display illumination mode and the display brightness. The display brightness can be adjusted in steps from -5 to +5, the illumination mode from standard ('STD') to -5.

To change the display settings:

1. Enter the Options menu by pressing the Volume Control Dial ❽ when the audio system is switched on.
   The menu item 'AUDIO' is highlighted.
2. Turn the Volume Control Dial ❽ clockwise to highlight 'DISPLAY'.
3. Press the Volume Control Dial ❽ to access the display setup menu.
4. Turn the Volume Control Dial ❽ clockwise to highlight either 'CONTRAST' or 'BRIGHTNESS'.
5. Press the Volume Control Dial ❽ to access the setting.
6. Turn the Volume Control Dial ❽ clockwise or anti-clockwise to alter the setting.
7. Press the Volume Control Dial ❽ to exit and store the setting.
8. To exit the menu, select the 'BACK' option or wait 8 seconds.

HELP MENU

This unit is equipped with a help menu to help you understand the audio system and its functions.

You can display help texts for each of the audio system buttons.

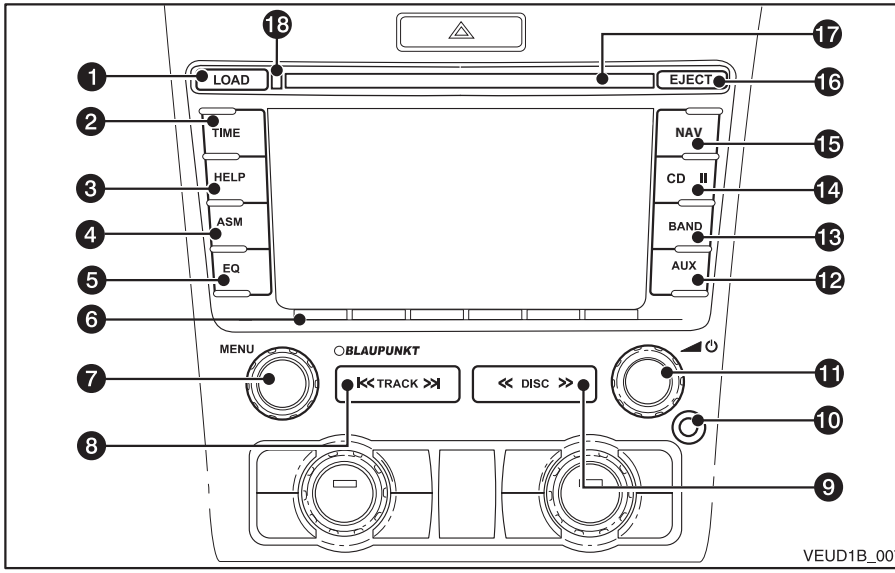
1. Press the **HELP** button ❻ to enter the help menu.
2. Highlight the menu item by pressing the Volume Control Dial ❽.
3. Press any of the audio system buttons to display it's help text. To go one level back in the menu, press the HELP button ❻ again.

You can display help texts for each of the audio system functions.

1. Press the **HELP** button ❻ to enter the help menu.
2. Highlight the menu item by pressing the Volume Control Dial ❽.
3. Press the Volume Control Dial ❼. Highlight the desired help topic by pressing the Volume Control Dial ❽. The help text is displayed. To go one level back in the menu, press the **HELP** button ❻ again.

OVERVIEW (SS-V)

SS-V



OVERVIEW (SS-V) cont.

CONTROLS

❶ CD Load button.
Long press: To Load all discs.
Single press: To Load one disc.
❷ Short press: Show time and date.
Long press: Adjust clock and calendar.
❸ Enter Help menu.
❹ Automatic Station Memory storage.
❺ Equalizer On/Off/Setting – Press and hold turns EQ off.
❻ Softkeys. Functions depend on menu shown in the display.
❼ Menu Control (push and turn action).
Push the menu control to enter the options menu.
Turn the menu control to select menu items.
Push the menu control to enter menu items.
❽ Radio Mode: Automatic frequency select.
CD Mode short press: Track up/down.
CD Mode press and hold: Track cue/review.
❾ Radio Mode: Manual frequency select.
CD Mode: Disc select.
❿ Socket for front AUX source.
⓫ Volume and Power On/Off Control Dial.
Turn: To increase/decrease volume.
Press: To turn on/off.
⓬ AUX source button.
Select AUX source (if AUX source is plugged in).
Toggle between front and rear AUX source.
⓭ Radio band button.
Toggle between FM 1, FM2 and AM band. When ASM is selected, toggle between FM ASM and AM ASM.
⓮ CD source button.
CD Mode: CD pause button.
⓯ Navigation System Selection button*.
⓰ CD Eject button.
Long press: To eject all discs.
Single press: To eject one disc.
⓱ CD load/remove slot.
⓲ CD Load indicator light.

IMPORTANT INFORMATION (SS-V)

NOTES ON RADIO OPERATION

- Do not apply any cleaning solution or solvents, or other forms of liquid, to the audio system as this may cause damage to the display and/or electronics, and void the warranty.
- Do not insert anything other than CDs into the CD slot (no foreign objects) as this could cause damage to the CD mechanism. If foreign objects are found in the audio system then warranty will be void.
- Do not insert CDs that have labels attached. Labels can come off and damage the CD mechanism.
- Excessively scratched or dirty CDs may not play correctly.
- Under direct sunlight the radio display may become difficult to read.

SECURITY CODE (ALL UNITS)

Your audio system includes an electronically coded security system.

This electronically links the audio system to your vehicle. Under normal circumstances you will be unaware of its operation and shouldn't need to take any action to enable the audio system to work, even if the vehicle's battery has been disconnected and reconnected.

When the electronic link between the vehicle and the audio system is interrupted, the display 'Security Lockout Active' will be shown. In this case, please contact your Holden Dealer.

Security Indicator Light

Note For added security a small red light ⓲ on the audio system blinks while the ignition is off.

IMPORTANT INFORMATION (SS-V) cont.

SETTING THE CLOCK & CALENDAR

Note The clock and calendar can be adjusted when the audio system is either on or off.

Adjust the clock and calendar as follows:

1. Press and hold the **TIME** button ❷ for more than 2 seconds. The display will show the Options menu with the time settings activated. The hours are highlighted.
2. To adjust the hours, press the Menu Control Dial ❼.
3. Adjust the hours by turning the Menu Control Dial ❼.
4. To adjust the minutes, first press the Menu Control Dial ❼ then highlight the menu item 'Minute' and press the Menu Control Dial ❼.
5. Adjust the minutes by turning the Menu Control Dial ❼.
6. Repeat this procedure for the year, month and date.
7. To exit this mode, press the **TIME** button ❷ once more.

Note The audio system will automatically exit this mode if no adjustments are made for 8 seconds.

SWITCHING ON/OFF (SS-V)

ON/OFF

Switch the audio system off and on by pressing the ⏻ button ⓫.

On/Off (Using ignition key)

The audio system can operate when the ignition key is turned to the Accessories position. When the vehicle's Accessories Control is turned off by turning the ignition key off and opening the driver's door, the audio system (if operating) will be switched off. When the key is switched to the Accessories position again, the audio system will also be switched on.

On/Off (Without ignition key)

The audio system can also be switched on and off without using the vehicle's ignition key by pressing the ⏻ button ⓫. The audio system will operate for approximately 1 hour. Once this period has elapsed the audio system automatically switches off and will not operate until the ⏻ button ⓫ is pressed again, or the ignition key is in the Accessories or Ignition position.

On/Off when Accessories or Ignition is on

When the ignition key is in the Accessories or Ignition position the audio system can be turned on (if off) with the following buttons:

- Pressing the ⏻ button ⓫.
- **CD** button ⓮.
- **BAND** button ⓭.
- **AUX** button ⓬.
- CD **LOAD** button ❶.
- Plug an AUX source into audio system's front AUX socket ⓾.

PERSONAL IDENTITY KEYS* (SS-V)

Memory 1 and Memory 2

This audio system features Personal Identity Memories, which provide two different memories of electronic settings for different ignition keys.

For the sound system the following settings are individually memorised by the key system and become unique to the particular key:

- Audio system On or Off.
- Last used Volume level.
- Last used Mode (AM, FM or CD).
- FM1, FM2, AM, FM ASM, AM ASM – Radio Memory Presets.
- Bass and Treble settings.
- Speaker Balance settings.
- Additional features Speed dependant volume, beeps, DDL settings, display priority settings and tuner seek sensitivity.
- Equalizer and Boost settings.
- CD track and disc settings.

When entering the Radio Memory Presets for the first time they will be automatically stored for both Personal Identity Keys. If these presets are changed later by using a different Personal Identity Key, they will become specific for that key only, so from that point on they will be unique to that key.

AUDIO SETTINGS (SS-V)

SOURCE (MODE) SELECTION

The radio mode can be selected by any of the following actions:

- Pressing the ⏻ button ⓫ if the previously played source was radio.
- Pressing the **BAND** button ⓭.

The CD mode can be selected by any of the following actions:

- Pressing the ⏻ button ⓫ if the previously played source was CD.
- Pressing the **CD** button ⓮.
- Pressing the **LOAD** button ❶ to load a CD.

The AUX mode can be selected by any of the following actions:

- Plugging a portable source into the front AUX.
- Pressing the AUX button.

AUDIO SETTINGS

Volume

Turning the Volume Control Dial ⓫ clockwise will increase the volume, turning it anti-clockwise will decrease the volume.

Independent Tone Memories

This audio system is equipped with Independent Tone Memories.

Bass and Treble can be set independently for each listening mode such as AM, FM and CD.

After all individually preferred tone settings have been stored while using one particular ignition key, the same procedure can be repeated with different settings while the other ignition key is used*.

Bass

1. Enter the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.

   The menu item ‘Audio’ is highlighted.
2. Press the Menu Control Dial ❼ to access the audio menu.

   The menu item ‘Bass’ is highlighted.
3. Press the Menu Control Dial ❼ to access the bass setting.
4. Turn the Menu Control Dial ❼ clockwise or anti-clockwise to alter the bass setting. Bass can be changed from -6 to +6 through 0 (STD) in step size of 1.
5. To exit the menu, select the ‘Back’ option or wait 8 seconds.

AUDIO SETTINGS (SS-V) cont.

Treble

1. Enter the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.

   The menu item ‘Audio’ is highlighted.
2. Press the Menu Control Dial ❼ to access the audio menu.
3. Turn the Menu Control Dial ❼ clockwise to highlight ‘Treble’.
4. Press the Menu Control Dial ❼ to access the treble setting.
5. Turn the Menu Control Dial ❼ clockwise or anti-clockwise to alter the treble setting. Treble can be changed from -6 to +6 through 0 (STD) in step size of 1.
6. To exit the menu, select the ‘Back’ option or wait 8 seconds.

Balance

To shift the sound towards the right or the left:

1. Enter the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.

   The menu item ‘Audio’ is highlighted.
2. Press the Menu Control Dial ❼ to access the audio menu.
3. Turn the Menu Control Dial ❼ clockwise to highlight ‘Balance’.
4. Press the Menu Control Dial ❼ to access the balance setting.
5. Turn the Menu Control Dial ❼ clockwise or anti-clockwise to alter the balance setting. Balance can be changed from L6 (left) to R6 (right) through 0 (STD) in step size of 1.
6. To exit the menu, select the ‘Back’ option or wait 8 seconds.

AUDIO SETTINGS (SS-V) cont.

EQUALIZER FUNCTION

The audio unit is equipped with five pre-programmed equalizer curves. Each of these curves have been factory-programmed to enhance a particular style of music. However it may be used with any type. To turn this function on or off, or to scroll through the five EQ curves, press the **EQ** button ❺ one or more times.

The five pre-programmed settings are:

- Rock.
- Pop.
- Jazz.
- Classic.
- Vocal.
- and off.

Equalizer Off

The equalizer function can be turned off by pressing the **EQ** button ❺ one or more times until 'EQ Off' appears on the display. It can also be turned off by pressing and holding the **EQ** button ❺ for more than two seconds.

Note The Equalizer can also be set using the 'Equalizer' menu item in the 'Audio' menu.

Equalizer Boost

While any equalizer style (e.g. Rock, Pop, etc.) is being used, the amount of enhancement of that style can be altered.

1. Enter the Option menu by pressing the Menu Control Dial ❼ when the audio unit is switched on.

   The menu item 'Audio' is highlighted.
2. Press the Menu Control Dial ❼ to access the audio menu.

   The menu item 'EQ Boost' is highlighted.
3. Press the Menu Control Dial ❼ to access the boost setting.
4. Turn the Menu Control Dial ❼ clockwise or anti-clockwise to alter the EQ Boost setting. Boost can be changed from -2 (minimum) to +2 (maximum) through STD in step size of 1.
5. To exit the menu, select the 'Back' option or wait 8 seconds.

Note Different amounts of boost can be set for each of the five EQ curves.

AUDIO SETTINGS (SS-V) cont.

LOUDNESS CONTOUR CIRCUIT

A user selectable loudness contour circuit to enhance the Bass and Treble response at low volume levels can be activated if you feel that the sound system needs more bass and treble at low listening levels.

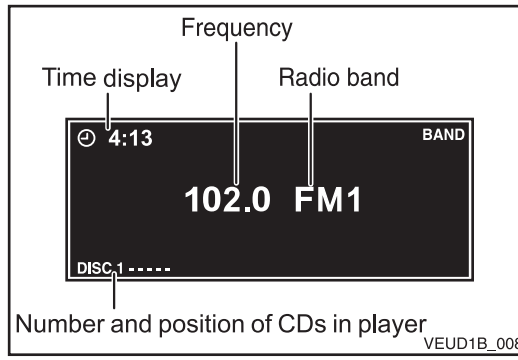
To activate it:

1. Enter the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.

   The menu item ‘Audio’ is highlighted.
2. Press the Menu Control Dial ❼ to access the audio menu.
3. Turn the Menu Control Dial ❼ clockwise to highlight ‘LOUDNESS’.
4. Press the Menu Control Dial ❼ to access the Loudness setting.
5. Turn the Menu Control Dial ❼ clockwise or anti-clockwise to select Loudness On or Off setting.
6. To exit the menu select the ‘BACK’ option or wait 8 seconds.

RADIO OPERATION (SS-V)

Radio Display



Selecting a Radio Band

Press the **BAND** button ⓭ repeatedly to select one AM and two FM bands (FM1 & FM2). The chosen band will be shown on the display. If the ASM mode is active ('ASM' appears on the display), one AM ASM band and one FM ASM band can be selected.

For further information on the ASM mode, refer to *Automatic Station Memory* further on in this chapter.

Manual Tuning

Press the ≫ button ❾ or the ≪ button ❾ to tune the frequency band up or down. The frequency changes in steps of 9 kHz for AM and 0.1 MHz for FM.

Automatic Seek Tuning

This function seeks radio stations automatically. Press the ⏭ button ❽ to select the next higher frequency radio station automatically. Press the ⏮ button ❽ to select the next lower frequency radio station automatically.

Auto/Local/Distance selection ('Seek Sens' in the menu)

The LOCAL function reduces the radio's seek tuning sensitivity in AM and FM modes. This will cause the SEEK tuning to stop only on stations with strong signals i.e. city area.

If you are performing a SEEK function in an area where few or no stations can be found when LOCAL ('LO') is active, you can choose DISTANCE ('DX') so that weaker i.e. country area stations may also be found.

You can also choose the AUTO option. With AUTO selected, the radio first searches for local stations and, if no stations can be found, the radio searches for all stations.

Note

- If local stations are found using auto mode, the radio will not search for distance stations.
- It is advisable to set the seek sensitivity to distance (DX) mode, so that all stations are found. Unless you are trying to avoid weaker stations.

RADIO OPERATION (SS-V) cont.

Note The Local/Distance selector has no effect when the ASM search feature is being used.

1. Access the Option menu by pressing the Menu Control Dial ❼ when the radio is switched on.
2. Highlight the menu item 'Seek sens' by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼ to access the seek sensitivity setting.
4. Turn the Menu Control Dial clockwise or anti-clockwise to choose one of the settings 'Local', 'Distance' or 'Auto'.
5. To exit the menu, select the 'Back' option or wait 8 seconds.

STORING STATIONS

The radio is equipped with 30 stations presets.

- 6 x FM1
- 6 x FM2
- 6 x AM
- 6 x FM ASM (Automatic Station Memory FM Stations)
- 6 x AM ASM (Automatic Station Memory AM Stations)

Storing a Radio Station into a Preset

1. Select the desired radio band, AM, FM1 or FM2 using the **BAND** ⓭ button.
2. Tune to the desired station by means of:
   - Automatic seek tuning or
   - Manual tuning.
3. Press and hold the desired softkey **1** to **6** ❻ until the selected station frequency number is displayed. The radio is briefly muted or a beep sounds (if beeps are turned on, refer to the section *Confirmation Beeps* further on in this chapter), indicating that the chosen radio station has been stored into the preset. The previously stored station is replaced.
4. Store stations on the other softkeys in the same way.
5. Repeat the same procedure for the other radio bands AM, FM1, and FM2.

Recalling Stored Stations

1. Select a radio band, AM or FM.
2. Briefly press the desired softkey **1** to **6** ❻.

To select one of the stations stored with Automatic Station Memory (ASM), select the AM or FM radio band, then briefly press the **ASM** button ❹.

Now press the desired softkey.

RADIO OPERATION (SS-V) cont.

Automatic Station Memory (ASM)

This feature allows the storage of additional 6 AM and 6 FM radio stations. It is of great benefit when travelling long distances, e.g. on holidays, since you can store the strongest radio stations without knowing their frequency. This does not delete the stations already stored on FM1, FM2 or AM.

Using Automatic Station Memory

1. Select the desired radio band with the **BAND** ⓭ button.
2. Press the **ASM** button ❹ for at least two seconds until the sound is briefly muted or a beep sounds (if Confirmation Beeps are turned on, refer to *Confirmation Beeps* further on in this chapter). Search tuning starts and 'STATIONS FOUND' followed by the number of stored stations appears on the display. This depends on the setting for the seek sensitivity (see 'Local/Distance selection' on the previous page).

After the ASM process is finished, the six strongest stations found in the area are stored. The radio will play the station stored on preset ❶.

If you have travelled beyond the range of the stored stations, you may wish to repeat the process again to store new stronger stations.

To alternate between the ASM radio stations and your normally stored radio stations (on FM1, FM2 or AM), briefly press the **ASM** button ❹.

Whenever you are using the AM ASM or the FM ASM bands, 'ASM' will also be shown on the display.

You can also store stations manually in the ASM station presets (see 'Storing a Radio Station into a Preset' on the previous page).

ANTENNA INFORMATION

Refer to *Antenna Information* further on in this chapter.

RADIO RECEPTION

Due to varying reception locations, vehicle radios have performance limitations that may occasionally create the impression that your radio is malfunctioning. To assist you in understanding what can be expected from your radio, we have set out below how reception may vary from time to time and under certain conditions.

AM and FM

There are two types of radio broadcasting frequencies, AM (Amplitude Modulation) in which the amplitude of the signal is varied to produce the sound and FM (Frequency Modulation) in which the frequency is varied to produce the sound.

Range

AM broadcasts tend to follow the earth's curvature and are also reflected by the upper atmosphere, which enables long range reception, especially after sunset.

FM transmissions are basically line-of-sight signals (similar to TV signals) and are reflected by buildings, mountains etc., but not by the upper atmosphere.

RADIO OPERATION (SS-V) cont.

Interference

Interference is caused by either natural or man made electrical disturbances. This can affect the amplitude of the reception signal. AM signals are more prone to this type of interference than FM signals. This type of interference has little or no effect on the frequency of the reception signal, thus AM is susceptible to interference from power lines, fluorescent lighting, neon signs, traffic light control circuits, overhead tram wires and electrical storms. With FM reception, these amplitude variations are filtered out, leaving a relatively clear signal (refer to 'Peculiarities of FM Mobile Reception'), which is one of the major advantages of FM broadcasts.

Peculiarities of FM Mobile Reception

A mobile FM receiver cannot be expected to continuously provide the quality of FM reception you may have experienced on your home receiver. Contrary to popular opinion, FM broadcasts are not static free, and although your radio has a built-in electronic interference absorption circuit, some static will occur from time to time, especially in areas without a direct line of sight to the transmitter.

There are two phenomena that are characteristic of FM reception:

- **Flutter** – When FM signals are reflected by solid objects, they can pass through areas of 'shadow' caused by tall buildings and/or hilly terrain, which effectively blocks out the signal. As the vehicle passes in and out of shadow areas, the signal level will vary at a rapid rate, creating a flutter type of interference to the signal.
- **Distortion (Multipath)** – Distortion may occur when the direct signal from the transmitter and a reflected signal reach the antenna at the same time and either cancel or support each other, like ghosting on a TV. This results in intermittent distortion of the signal while moving or constant distortion when stationary, e.g. at a traffic light or when parking. Should this distortion occur while stationary, moving the vehicle approximately 1 or 2 metres usually corrects the problem.

To reduce the effects of interference and/or poor signal strength, several features have been included in the radio which work automatically when needed:

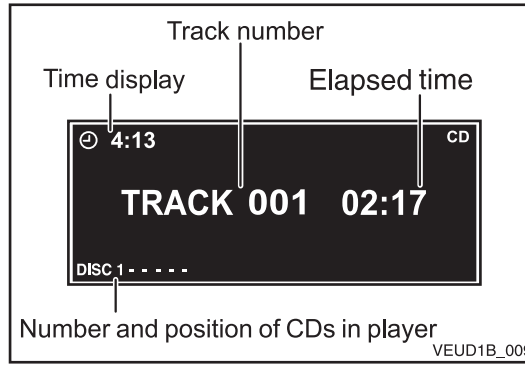
- **Noise Blanking Circuit** (FM interference suppression) – This radio has been equipped with a Noise Blanking Circuit to reduce pulse interference.
- **Soft Muting Circuit** – The built-in Soft Muting Circuit will reduce the FM stereo separation and treble response if the signal from the radio station deteriorates. This effect lessens the amount of audible hiss and background noises that are usually heard with weaker FM signals.
- **Multipath Detection Circuit** – If repeated multipath signals are received, the circuitry will switch the radio into MONO mode and slightly reduce the treble response. It will gradually return to STEREO with full treble response when the multipath conditions fade.

CD CHANGER OPERATION (SS-V)

The CD Changer holds up to six CDs at one time. The Changer is built into the audio system and CDs are loaded through the single slot ⓱ on the front face of the audio system, after pressing the **LOAD** button ❶ (refer to *Loading a CD* on the next page).

Note The CD Changer is designed for standard 12 cm CDs only. Using incorrect sized CDs (e.g. 8 cm or 3 inch CDs) may damage the Changer or the disc, even if an adapter is used.

CD Display



- Press the softkey ❻ DISPLAY MODE repeatedly until the desired display mode is shown.

For CD operation, the following modes are available:

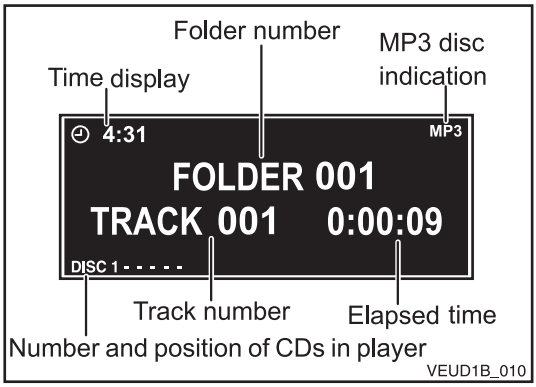
- Normal mode with track number and playtime.
- Track info mode with track number, playtime, and track name. Track name can only be displayed when the appropriate data is stored on the CD (CD text).
- Disc info mode with track number, playtime, and name of CD. The CD name can only be displayed when the appropriate data is stored on the CD (CD text).
- Disc and track info mode with track name and name of CD. Track name and CD name can only be displayed when the appropriate data is stored on the CD (CD text).

Note

- Track information display mode is unavailable if a track without information is played.
- Track information mode is cancelled if a track without information is played.

CD CHANGER OPERATION (SS-V) cont.

MP3 Display



- Press the softkey ❻ DISPLAY MODE repeatedly until the desired display mode is shown.

For MP3-CD operation the following modes are available:

- Normal mode with folder number, track number and playtime.
- Folder info mode with folder number, track number, folder name and track name. Folder name can only be displayed when the appropriate data is stored on the CD (MP3 ID tag).
- Artist info mode with folder number, track number, artist name and track name. Artist name can only be displayed when the appropriate data is stored on the CD (MP3 ID-tag).
- Song title mode with folder number, track number and track name.

Note

- Track information display mode is unavailable if a track without information is played.
- Track information mode is cancelled if a track without information is played.
- There are limitations on the number of sub-directories that can read. Not all MP3 CDs are compatible.
- To display the name of the artist and song title information, this information has to be stored on the MP3-CD as ID-Tag together with the track.

CD Display Symbols

The display shows DISC and six numbers that represent the six CD storage locations within the CD Changer. When a storage location within the CD Changer has no disc loaded, '–' is displayed. When a CD is loaded into the Changer the number of the CD is displayed to show that there is a CD loaded in that storage location.

When a CD is playing, its number is highlighted on the screen.

CD CHANGER OPERATION (SS-V) cont.

Loading a CD

To load a CD into the CD Changer, briefly press the **LOAD** button ❶. When the Changer is ready to accept the CD, 'Insert Disc' will be displayed.

The Load Indicator Light ⓲ will flash green, and the audio system will beep twice (if beeps are turned on). Insert the CD with the label surface facing upwards, into the CD slot ⓱ until the mechanism pulls the CD inside and it begins to play.

The LOAD function can be cancelled by briefly pressing the **EJECT** button ⓰, turning the audio system OFF, or it will cancel automatically if no disc has been inserted within 10 seconds after the 'Insert Disc' message is displayed.

Loading all CDs

A function has been included to allow the loading of up to six CDs without having to repeatedly press the LOAD button.

To start the 'Loading all Discs' function, push and hold the **LOAD** button ❶ for more than 2 seconds until a beep sounds (if beeps are turned on) and the display shows 'Loading all Discs'. The display, beeps and Load Indicator Light ⓲ will prompt you when it is time to insert each CD.

This function is cancelled automatically when no CD has been inserted for 10 seconds, by briefly pressing the **EJECT** button ⓰, or by turning the audio system OFF.

Note It is possible to insert and load CDs while the vehicle's ignition key is turned off. The audio system will turn off after loading the CDs.

Ejecting a CD

To remove the currently selected CD, briefly press the **EJECT** button ⓰. When the CD is ready for removal from the CD slot ⓱, 'Remove Disc' will be displayed. The Eject Indicator Light ⓲ will flash and the audio system will beep twice (if beeps are turned on).

If you wish to eject a CD that is not currently playing, briefly press the **EJECT** button ⓰ followed by the softkey ❻ that is assigned to the CD you wish to eject within 3 seconds.

The **EJECT** function can be cancelled by briefly pressing the **LOAD** button ❶ or by turning the audio system OFF.

Note If an ejected CD is not removed within 10 seconds, it will be automatically reloaded to protect it from accidental damage.

Ejecting all CDs

All CDs within the CD Changer can be ejected by pushing and holding the **EJECT** button ⓰ for more than 2 seconds until 'Ejecting all Discs' appears on the display and a beep sounds (if beeps are enabled). The display, beeps and Eject Indicator Light ⓲ will prompt you when it is time to remove each CD.

The 'Ejecting all Discs' function can be cancelled by briefly pressing the **LOAD** button ❶, or by turning the audio system OFF.

Note It is possible to eject one or more CDs when the vehicle's ignition key is off, but the audio system will switch off after removing the CD(s).

CD CHANGER OPERATION (SS-V) cont.

Playing CDs

- Press the ⏻ button ⓫ if the previous mode was CD.
- Press the **CD** button ⓮.

Stopping a CD

Press the **BAND** ⓭ button to stop CD playback and resume in radio mode or press the **AUX** ⓬ button to stop CD playback and resume in AUX mode, or press the ⏻ button ⓫.

Pausing a CD

Press the **CD II** button ⓮ to pause the CD playback.

'PAUSED' will be shown on the display. Press it again to continue playing the CD.

CD Endless Playback

When the player reaches the end of a CD it automatically loads and plays the next CD. If no other CD is available, it returns to the start and plays the current CD.

Disc Selection

When more than one disc has been loaded into the CD Changer, you can select the one to play by the following methods:

- Briefly press the **DISC** ≫ button ❾ to select the next disc.
- Briefly press the ≪ **DISC** button ❾ to select the previous disc.

Folder Selection (when using MP3-Discs)

When listening to an MP3-CD you can select folders by:

- Press and hold the **DISC** ≫ button ❾ longer than 2 seconds to select the next folder on the MP3-CD.
- Press and hold the ≪ **DISC** button ❾ longer than 2 seconds to select the previous folder.

Track Selection

Press the ⏭ button ❽ to go to the next track of the current CD, or press it repeatedly until the desired track is reached.

Press the ⏮ button ❽ to go back to the start of the current track, or press it repeatedly until the desired track is reached.

Fast Forward/Fast Back (Track Cue/Review)

Press and hold the ⏭ or ⏮ button ❽ to rapidly move forward or backward within the current track.

CD CHANGER OPERATION (SS-V) cont.

Choosing Track and Folder using the MP3-Browse Mode

When listening to MP3-CDs, you can browse the directories (folders) and tracks of the MP3-CD to find a track more easily.

To choose a track in the current folder.

1. Press the softkey ❾ BROWSE MODE.
   The files of the currently played folder are shown. The current track is highlighted.
2. Highlight the desired track by turning the Menu Control Dial ❽.
3. Press the Menu Control Dial ❽.
   The chosen track will be played.

To exit the Browse mode:

- Press the softkey ❾ EXIT.

To choose a track in a different folder:

1. Press the softkey ❾ BROWSE MODE.
2. Press either softkey ❾ NEXT FOLDER or PREV FOLDER.
   The files of the folder are shown.
3. Highlight the desired track by turning the Menu Control Dial ❽.
4. Press the Menu Control Dial ❽.
   The chosen track will be played.

To choose a track in a different folder:

1. Press the softkey ❾ BROWSE MODE.
2. Press the softkey ❾ FOLDER LIST.
   The folders of the current MP3-CD are shown. The current folder is highlighted.
3. Highlight the desired folder by turning the Menu Control Dial ❽.
4. Press the Menu Control Dial ❽.
   The files of the chosen folder are shown.
5. Highlight the desired track by turning the Menu Control Dial ❽.
6. Press the Menu Control Dial ❽.
   The chosen track will be played.

   Note In MP3-browse mode, the currently playing track is displayed at the bottom of the MP3 browse mode screen. Pressing ⏮ ❻ or ⏭ ❻ or using the steering wheel remote control scroll wheel ❷, will change the currently played track but will not move the highlighted track.

CD Repeat

You can choose between different modes for repeat:

- REPEAT TRACK,
- REPEAT DISC, and
- REPEAT FOLDER (only when using MP3-CDs).

1. Press the softkey ❻ REPEAT.
2. Press one of the softkeys ❻ REPEAT TRACK, REPEAT DISC or REPEAT FOLDER.

To cancel this function, press the softkey ❻ of the current active repeat mode again.

CD CHANGER OPERATION (SS-V) cont.

CD Random

You can choose between different modes for random play:

- RANDOM TRACK for CD,
- RANDOM DISC for CD,
- RANDOM IN DISC for MP3-CDs and
- RANDOM IN FOLDER for MP3-CDs.

1. Press the softkey ❻ RANDOM.
2. Press one of the softkeys ❻ RANDOM TRACK, RANDOM DISC (for CD) or RDM IN DISC or RDM IN FOLDER (for MP3-CD).

   Note If RANDOM DISC is selected when a CD is playing and a combination of CDs and MP3-CDs are loaded, only the CDs will be played.

To cancel this function, press the softkey ❻ of the current active random mode again.

If the buttons ⋙| or |⋘ ❽ are pressed while in random play mode, the next random selection will be made immediately.

CD Changer Memory

Under severe vibration, the CD laser may not be able to maintain the extremely precise focus needed to read the tiny pits on the surface of the CD. When the laser focus is temporarily lost, the data that is read from the CD will also be temporarily interrupted. Your CD Changer is therefore equipped with a memory buffer that holds approximately seven seconds of music which is used to prevent interruption due to severely bumpy surfaces. Should the severe vibration last for longer than seven seconds, the memory buffer may become empty and playback will be interrupted or stopped until the mechanism has time to refocus, read the disc and refill the memory buffer.

This situation should occur very rarely under normal driving conditions.

Playing recordable CDs (CD-Rs or CD-RWs)

It is possible to play CD-R/RWs on this audio system. However, depending on the type/condition of the recording equipment and the blank disc used, some CD-Rs may not play consistently or not at all. Some copy controlled CDs may not play consistently or not at all.

Error Messages from the CD Changer

In some cases, the Changer may have problems playing, loading, or ejecting some CDs. If this happens, one of the following error messages may appear on the display:

1. ‘Mechanism Error’.
2. ‘Error check Disc’.
3. ‘No Discs’.
4. ‘CD Error’.
5. ‘Over Heat Error’.

The player will switch to radio mode after displaying the error message for several seconds.

Consult your Holden Dealer if an error message keeps occurring.

AUX OPERATION (SS-V)

AUX operation

WARNING

Do not connect, disconnect or adjust portable devices while driving the vehicle.

This unit is equipped with an AUX input socket ❿ at the front of the audio system. You can connect any suitable audio source to the AUX-input socket e.g. portable MP3 player. There is also a secondary AUX input connector on the rear of the audio system for use with an optional DVD player. This is called the 'Rear AUX' in the menu and can be enabled/disabled via the menu. You can select the DVD source display on the audio system (SS-V, Calais, Calais-V) and sound through the audio system speakers (all models).

Note

- Video display will turn off while the vehicle is moving ('Rear AUX' will be displayed)
- If the vehicle is stationary and the DVD is switched off, the audio system will show a blank screen.

Starting AUX operation

- Press the **AUX** mode button ⓬.
- Plug a portable device into the AUX input socket ❿.

When last used AUX source was front AUX and a device is still plugged into the front AUX socket, then front AUX is chosen.

If rear AUX is enabled and there is no device plugged in the front AUX input socket the audio system switches to the DVD player source (if a DVD is fitted). If no device is plugged into the front AUX input socket, AUX operation is terminated and the last used source is used again. If you have disabled rear AUX (see section 'Enable/disable rear AUX'), the audio system always switches to front AUX.

To switch between front and rear AUX:

- Press the **AUX** mode button ⓬ to switch between the front AUX input socket (only applicable if devices are plugged in) and rear AUX*.

Note

- The sensitivity of the AUX input socket is tuned to suit "line level" audio sources. Hence "headphone level" audio sources will not be as loud in volume.
- Adjust the portable device volume level in conjunction with the audio system level to obtain the correct volume level.

Enable/disable rear AUX input*

You can disable the rear AUX as audio source.

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item 'Rear Aux' by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Turn the Menu Control Dial to toggle between the setting On or Off.
5. Press the Menu Control Dial ❼ to confirm your setting.
6. To exit the menu, select the 'Exit' option or wait 8 seconds.

ADDITIONAL FEATURES (SS-V)

Help menu

This unit is equipped with a help menu to help you understand the audio system and its functions.

Button help

You can display help texts for each of the audio system buttons.

1. Press the **HELP** button ❸ to enter the help menu.
2. Highlight the menu item 'What does each button do?' by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Press any of the audio system buttons to display it's help text.
5. To go one level back in the menu, press the HELP button again ❸.

Help topics

You can display help texts for each of the audio system functions.

1. Press the **HELP** button ❸ to enter the help menu.
2. Highlight the menu item 'Help topics' by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Highlight the desired help topic by turning the Menu Control Dial ❼ clockwise or anti-clockwise.

   The help text is displayed.
5. To go one level back in the menu, press the **HELP** button again ❸.

Navigation button* operation

Press the **NAV** button to enter Full Map Navigation if installed. If the **NAV** button is pressed and Full Map Navigation is not installed, the system will remain in the current source. Refer to the Navigation handbook*.

ADDITIONAL FEATURES (SS-V) cont.

ADDITIONAL AUDIO SETTINGS

Dynamic Distortion Limiter (DDL)

Your audio system is equipped with a system that limits the amount of amplifier distortion that you can hear. When this feature is turned on it continuously monitors the quality of the signal to the speakers. When the signal distortion exceeds preset limits, the audio system will automatically limit or reduce the volume until the distortion is minimised. The system is dynamic so that it is always monitoring the sound in order to deliver the selected volume level without distortion. Under some circumstances, distortion may be heard for a very short time until the system has taken the necessary steps to limit it.

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item 'Audio setup' by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.

The audio setup menu will be displayed with the menu item 'DDL' highlighted.

4. Press the Menu Control Dial ❼.
5. Turn the Menu Control Dial to switch between 'Off', 'Curve 1', 'Curve 2' and 'Curve 3'.
6. Press the Menu Control Dial ❼ to confirm your setting.
7. To exit the menu, select the 'Back' option or wait 8 seconds.

Note The main source of distortion in music is the low frequency bass caused by drums or large instruments. Tracks that feature very strong bass may trigger the distortion limiting system which will then reduce the volume to minimise the distortion. Increasing the Bass control or EQ Boost control may also result in a reduced volume level due to the emphasised bass. If desired, the DDL can be turned off in these circumstances so that the audio system will deliver a higher volume level. Naturally, distortion will also be increased.

Confirmation Beeps

Audible beeps are used to confirm various actions of the audio system such as storing a radio station.

ON: The audio system will make a beep sound when storing radio stations, when it is time to insert or to remove a CD from the CD Changer, or to confirm that the LOAD ALL or EJECT ALL functions have started.

CD ONLY: The audio system will make a beep sound when it is time to insert or to remove a CD from the CD Changer.

OFF: No beeps are made by the audio system.

ADDITIONAL FEATURES (SS-V) cont.

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item ‘Audio setup’ by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Highlight the menu item ‘Beeps’ by turning the Menu Control Dial ❼ clockwise.
5. Press the Menu Control Dial ❼.
6. Turn the Menu Control Dial to switch between the settings.
7. Press the Menu Control Dial ❼ to confirm your setting.
8. To exit the menu, select the ‘Back’ option or wait 8 seconds.

Speed Dependent Volume (SDV)

The SDV system adjusts the audio system volume depending on the vehicle’s speed. As the vehicle’s speed increases, the volume of the audio system also increases to compensate for the driving noise.

You can select the compensation rates between 0 (off) and 5 (maximum compensation).

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item ‘Audio setup’ by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Highlight the menu item ‘Speed Vol’ by turning the Menu Control Dial ❼ clockwise.
5. Press the Menu Control Dial ❼.
6. Turn the Menu Control Dial to switch between the five levels of compensation.
7. Press the Menu Control Dial ❼ to confirm your setting.
8. To exit the menu, select the ‘Back’ option or wait 8 seconds.

Note This feature will never completely compensate for the driving noise. There are other factors such as road surface, wind noise, open windows, engine speed, etc., that may alter the interior noise for any given road speed.

For this reason there are five different levels of compensation available to allow you to find the one that suits your average driving conditions best.

ADDITIONAL FEATURES (SS-V) cont.

DISPLAY SETTINGS

You can adjust several settings of the display e.g. brightness and contrast to meet your needs.

Brightness setting

The brightness is adjustable from -5 to +5.

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item ‘Display’ by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
   The display menu will be displayed with the menu item ‘Brightness’ highlighted.
4. Press the Menu Control Dial ❼.
5. Turn the Menu Control Dial either clockwise or anticlockwise to set the desired level of brightness.
6. Press the Menu Control Dial ❼ to confirm your setting.
7. To exit the menu, select the ‘Back’ option or wait 8 seconds.

Note

- The brightness setting described above is set independently of the instrument panel dimmer control.
- If the instrument panel dimmer control is set to maximum brightness level, the audio system cannot be set any brighter.
- If the instrument panel dimmer control is set to minimum brightness level, the audio system cannot be set any darker.

ADDITIONAL FEATURES (SS-V) cont.

Contrast setting (DVD player mode only*)

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item ‘Display’ by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Highlight the menu item ‘Contrast’ by turning the Menu Control Dial ❼ clockwise.
5. Press the Menu Control Dial ❼.
6. Turn the Menu Control Dial either clockwise or anticlockwise to set the desired level of contrast. The level of contrast can be set from -5 to +5 in step size of 1.
7. Press the Menu Control Dial ❼ to confirm your setting.
8. To exit the menu, select the ‘Back’ option or wait 8 seconds.

ADDITIONAL FEATURES (SS-V) cont.

Colour Setting

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item ‘Display’ by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Highlight the menu item ‘Colour’ by turning the Menu Control Dial ❼ clockwise.
5. Press the Menu Control Dial ❼.
6. Turn the Menu Control Dial either clockwise or anticlockwise to set the desired level of colour.
7. Press the Menu Control Dial ❼ to confirm your setting.
8. To exit the menu, select and confirm the ‘Back’ option or wait 8 seconds.

Note The colour setting is only applicable when rear AUX/DVD operation is selected.

STARTUP SCREEN ON/OFF

You can choose whether the startup screen should be displayed or not.

1. Access the Option menu by pressing the Menu Control Dial ❼ when the audio system is switched on.
2. Highlight the menu item ‘Welcome’ by turning the Menu Control Dial ❼ clockwise.
3. Press the Menu Control Dial ❼.
4. Turn the Menu Control Dial either anticlockwise or clockwise to choose between On or Off.
5. Press the Menu Control Dial ❼ to confirm your setting.
6. To exit the menu, select and confirm the ‘Exit’ option or wait 8 seconds.

TELEPHONE (ALL UNITS)

This audio system includes an additional telephone facility, as well as the Bluetooth® phone interface on some models. Refer to *Bluetooth®* in chapter 1A. The telephone connection point in the vehicle's wiring contains circuits that run directly to the audio system. If a mobile phone hands-free kit with suitable features (such as a mute line and wiring for a separate speaker) has been connected to it, the sound of the audio system will be muted when the phone rings and the voice of the caller will be heard through the vehicle's speakers. When the call ends, the audio system will return to the previous mode.

During a call 'VOICE IN' will be shown on the display.

If the audio system is off, it will turn on for the telephone call if the vehicle's accessories or ignition is already switched on.

If a call is in progress when the accessories are turned off, the radio will remain turned on in Telephone mode until the phone call is completed.

For fitment of your hands free kit, contact your Holden Dealer.

IMPORTANT

When this feature is used for the first time, the volume may need to be adjusted to the phone as well as to the audio system. This should be done while a call is made. Firstly, adjust the phone's volume to a medium level using the volume control on the phone itself, then adjust the audio system's volume to a comfortable listening level. The audio system's volume may now be adjusted as required to compensate for variations in the mobile phone signal quality or changes in the background noise within the vehicle, e.g. if the window is open.

Note If the call sounds unusually distorted, the volume setting on the phone itself may need to be adjusted until the sound quality is improved.

Please contact your Holden Dealer for further information.

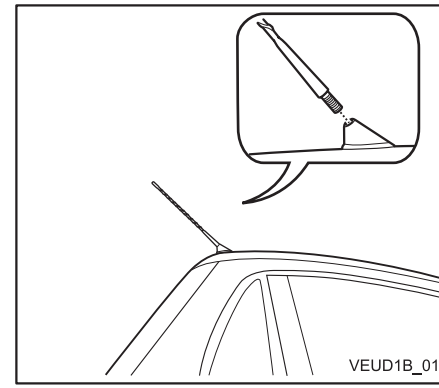
ANTENNA INFORMATION (ALL UNITS)

Fixed mast antenna

To remove the roof antenna, rotate it anticlockwise. To install the roof antenna, rotate it clockwise.

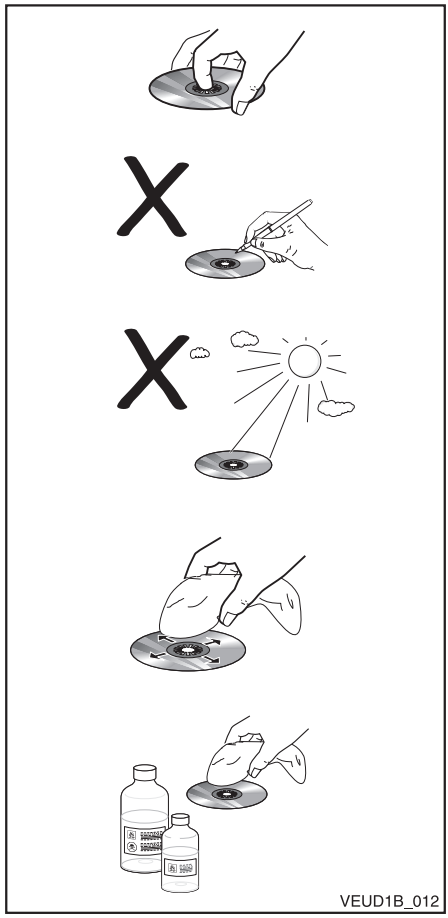
WARNING

Driving through an automatic vehicle wash with the antenna installed may result in damage to the antenna or the roof panel. Be sure to remove the antenna before entering an automatic car wash.



NOTES ON COMPACT DISCS (ALL UNITS)

- Handle the CD by its edge and avoid touching the playing surface.
- Do not stick paper labels, tape, etc., and do not write on either surface.
- Do not expose the CD to direct sunlight or a heat source such as a hot air duct for longer periods.
- Before inserting a CD into the player, check the playing surface and clean it with a suitable cleaning cloth. Wipe the CD from the centre outwards, rather than in a circular motion. See opposite diagram.
- Do not use solvents such as petrol, thinners, etc. Use commercially available CD cleaners.



NOTES

CHAPTER 2

Locks

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*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

KEYS

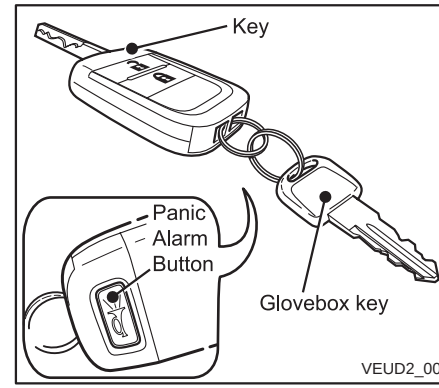
KEY

This key operates all locks and ignition, except for the glovebox. The following buttons appear on the key.

Lock: Press the button on the key to lock the doors and to arm the alarm system.

Unlock: Press the button on the key to unlock the doors and to disarm the alarm system.

Refer to *Door locks* further on in this chapter.



Panic/vehicle locate button

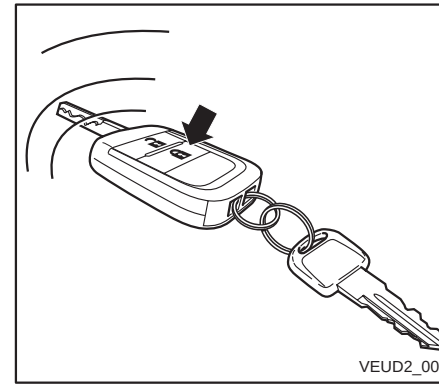
The panic/vehicle locate button is operational when the ignition is switched off and the key is within vehicle range.

When briefly pressing the PANIC button once, the exterior lamps will flash and the horn will chirp. This will help to locate the vehicle.

In an emergency situation, press and hold the PANIC button for at least 2 seconds. The horn will sound and the turn signals will flash. This will continue to happen until the PANIC button is pressed again or the key is placed in the ignition switch and turned to the ON position.

Pressing buttons

Note When pressing the key buttons, ensure that other keys on the key ring are not between the key and the vehicle. Other keys can obscure the signal being transmitted to the vehicle. Refer to *Notes about the keys* further on in this chapter.



KEYS cont.

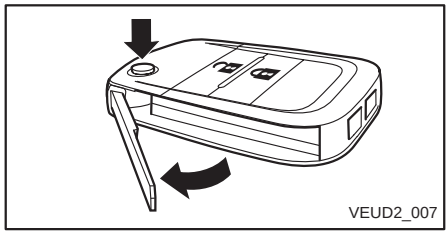
Foldaway key blade*

Press the button to extend the key blade.

To retract the key blade, press the button and fold the key section into the remote.

Note

- The key engages audibly.
- A fixed blade key is supplied as the second key.

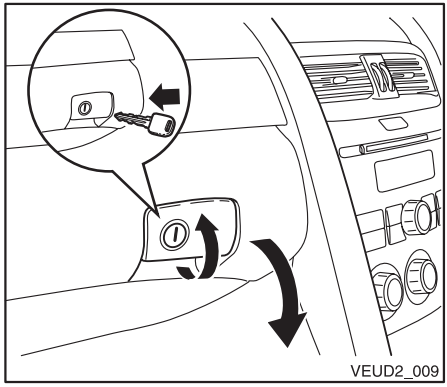

VEUD2_007

Matching transmitter(s) to your vehicle

Each remote keyless entry transmitter is coded to prevent another transmitter from unlocking your vehicle. If a transmitter is lost or stolen, a replacement can be purchased through your Holden Dealer. Remember to bring any additional transmitters so they can also be re-coded to match the new transmitter. Once your dealer has coded the new transmitter, the lost transmitter will not unlock your vehicle.

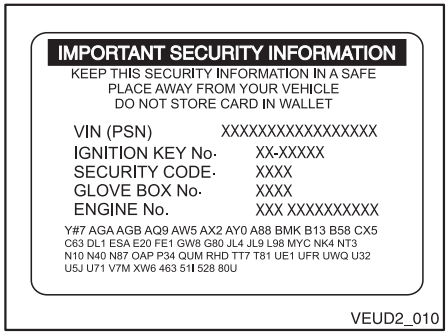
GLOVEBOX KEY

The glovebox key locks and unlocks the glovebox. When leaving the vehicle and ignition key with a car park attendant, valuables can be locked in the glovebox and the key taken with you.


VEUD2_009

KEY NUMBERS – SECURITY CARD

The security card lists various security numbers for the vehicle, including key numbers and the audio system PIN. Please keep the card in a safe place, away from the vehicle. If a key is lost, a replacement can be ordered through any Holden Dealer by quoting the key code number, security code number and providing proof of ownership.


IMPORTANT SECURITY INFORMATION
KEEP THIS SECURITY INFORMATION IN A SAFE PLACE AWAY FROM YOUR VEHICLE
DO NOT STORE CARD IN WALLET
VIN (PSN) XXXXXXXXXXXXXXXXX
IGNITION KEY No. XX-XXXXX
SECURITY CODE. XXXX
GLOVE BOX No. XXXX
ENGINE No. XXX XXXXXXXXXX
Y#7 AGA AGB AQ9 AW5 AX2 AY0 A88 BMK B13 B58 CX5
C63 DL1 ESA E20 FE1 GW8 G80 JL4 JL9 L98 MYC NK4 NT3
N10 N40 N87 OAP P34 QUM RHD TT7 T81 UE1 UFR UWQ U32
U5J U71 V7M XW6 463 51I 528 80U
VEUD2_010

KEYS cont.

*PERSONAL IDENTITY KEYS**

This system stores two sets of electronic settings. The settings are stored when a personal identity key is removed from the ignition and are recalled when the button is pressed on the key. For instance, one driver may have a preferred radio station. Pressing the button on their key automatically customises the radio for that driver. However, the other driver may prefer a different station. Pressing their key button tunes the radio to their station.

The features remembered by each of the 2 memories are:

- Climate control settings.
- Radio settings.
- Trip computer settings.
- All features are personalised in the Customisation menu. Refer to *Customisation menu* in chapter 1A.

Features revert to the last setting used for each key.

Note

- Two different memories are available, ‘memory one’ and ‘memory two’. If a third key is made, the third key becomes ‘memory one’ and the other two keys become identical ‘memory two’ keys.
- The personal settings will not be applied until the button is pressed on the key. This is when the key is identified.
- If the vehicle battery has been disconnected, some settings may be forgotten. The driver’s adjustments will be remembered the next time the features are adjusted.

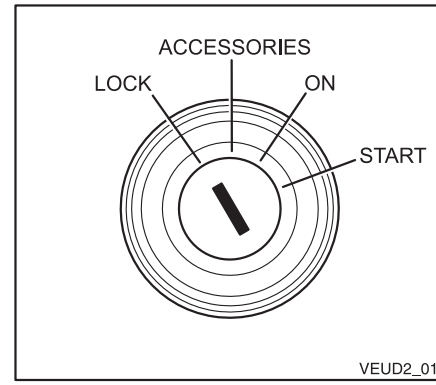
KEYS cont.

NOTES ABOUT THE KEYS

- When a button on the key is pressed, it sends a signal to the vehicle. The receiver of the signal is incorporated in the rear window shelf trim panel.
- The remote control in the key has a range of approximately 10 metres. The range is dependent on the charge state of the key battery and on ambient conditions of the vehicle's location, the key's location and the area between them. If the key buttons do not work, change your position to the vehicle and try again. Normally, getting closer to the vehicle will solve the problem. Certain conditions also enable ranges of more than 10 metres. Take care that no button is pressed unintentionally, especially when the vehicle is out of sight.
- Tinting the vehicle windows reduces the range of the key if the tinting material has a metallic film.
- The button on the key will work with the key in the ignition in any position or with the key removed from the vehicle. If any door is open when the button is pressed, the horn will chirp five times as a reminder. Check all doors to ensure they are closed securely and repeat the locking procedure.
- The key buttons may not work if the vehicle is parked near strong radio activity, such as under TV towers (most likely in high lookout car parks).
- At times you may notice a decrease in range. This is normal for any remote keyless entry system. If the transmitter does not work or if you have to stand closer to your vehicle, try this:
  - Check the distance. You may be too far from your vehicle. You may need to stand closer during rainy or snowy weather.
  - Check the location. Other vehicles or objects may be blocking the signal. Take a few steps to the left or right, hold the transmitter higher, and try again.
  - If you are still having trouble, contact your Holden Dealer.
- The key has a lithium battery inside the key head which should last approximately three years with normal use. Refer to *Replace battery in remote key* in chapter 1A. Have a flat key battery replaced by your Holden Dealer.
- When, for any reason, pressing the key buttons does not work, the doors can be locked and unlocked by turning the key in the driver's door lock.
  - Turn the key towards the rear of the vehicle (once) to lock all doors.
  - Turn the key towards the front of the vehicle once to unlock the driver's door, twice to unlock all doors. As the vehicle is fitted with an alarm system, opening the door will cause activation of the alarm after a preset period of time. If this happens, insert the key into the ignition and turn to the ON position to shut off the alarm.
- Do not disassemble the keys.
- If the vehicle is delivered with only one key, notify your Holden Dealer immediately.
- Always store spare keys in a safe, dry place.
- If the key is returned to you with signs of damage, contact your Holden Dealer as soon as possible.

IGNITION SWITCH

IGNITION POSITIONS



WARNING

Do not switch the engine off while the vehicle is moving as there will not be any power assist for brakes or steering. Never remove the key while the vehicle is moving, as this will lock the steering.

Lock

When the key is in the LOCK position, some electrical accessories and the engine are off.

The key is inserted and removed only from the LOCK position.

To help guard against theft, the vehicle's engine is automatically disabled shortly after turning the key to the LOCK position and removing the key from the ignition switch.

In addition, the steering wheel is automatically locked when the key is removed. To release the steering lock and enable the engine, re-insert the key and turn it towards the front of the vehicle.

If having trouble turning the key to unlock the steering, turn the steering wheel slightly to the right or left while turning the key towards the front of the vehicle.

Accessories

When the key is in the ACCESSORIES position, the engine will not run. However accessories such as the audio and wipers will still operate.

On

When the key is in the ON position, the engine is ready to start (or is already started) and all electrical systems are active.

Note The warning lamps, which are designed to illuminate at the ignition ON position, indicate the systems are working. Refer to *Warning/reminder indications* in chapter 1A.

Do not leave the switch in the ON position for a prolonged period, unless the engine is running, otherwise the vehicle's battery will discharge.

Start

The key should only be turned to the START position momentarily and then released, as the engine starts automatically. The key automatically returns to the ON position when released.

Note If the vehicle stalls after 5 seconds, return the key to the LOCK position. Slowly rotate the key to the START position. If the security warning lamp flashes, contact your Holden Dealer.

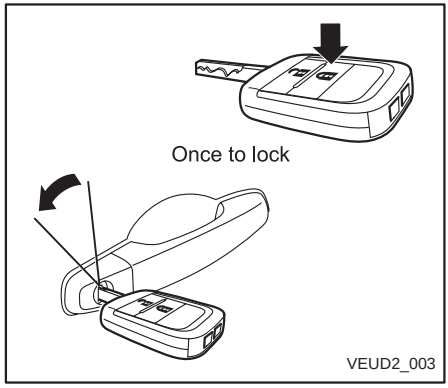
Refer to *Engine starting* in chapter 4.

DOOR LOCKS

LOCKING

Doors are locked when the lock snib is flush with the door handle. If the snib is showing red, the door is unlocked. Refer to *Door lock snibs* further on in this chapter.

Note You can select the **Auto lock** feature which locks the doors automatically when the vehicle's speed is at or above 13 km/h. On vehicles fitted with an automatic transmission, you also can select auto lock when the transmission selector is shifted out of **P** (park). Select the feature from the instrument panel Customisation menu. Refer to *Customisation menu* in chapter 1A.



Remote locking

Close all doors and then press the button on the key to lock all doors and arm the alarm system.

If **Flash remote lock** is selected in the Customisation menu, the vehicle's turn signals briefly flash once when the signal is received. Refer to *Customisation menu* in chapter 1A.

If unsure whether the vehicle is locked, press the button on the key again. If **Beep remote lock** is selected in the customisation menu, the horn briefly chirps when the vehicle is locked.

Note

- If any door is open when the button is pressed, the horn will chirp rapidly five times as a reminder. All doors will lock except the open door.
- If the driver's door is open when the button is pressed, all doors will be locked but then the driver's door lock and snib will be unlocked immediately.

Manual locking

Insert the key in the driver's door lock and turn towards the rear of the vehicle, then turn it back to the vertical position and remove.

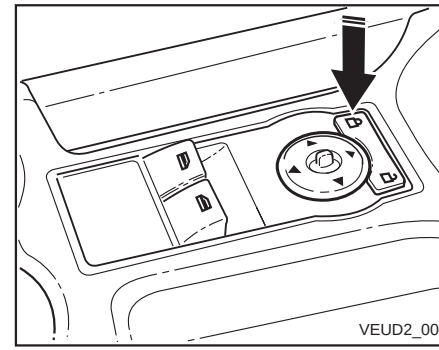
Note This will lock all doors and arm the alarm system.

Refer to *Notes about the keys* previously in this chapter.

DOOR LOCKS cont.

Locking from the inside

Press the side of the switch with the symbol on the centre console to lock all doors. This will not arm the alarm.



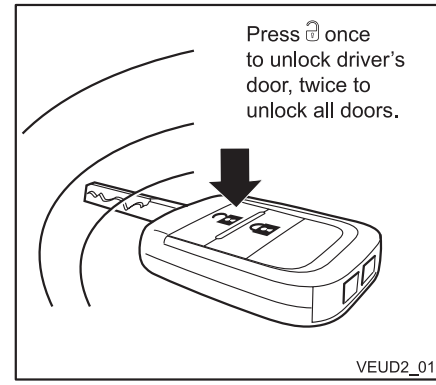
If locking has not worked

Note The horn chirps rapidly five times if any door is open while the button on the key is pressed.

UNLOCKING

Doors are unlocked when the lock snib is showing red. If the snib is flush with the door handle, the door is locked. Refer to *Door lock snibs* further on in this chapter.

Note The **Auto unlock** feature can be selected. It unlocks the doors automatically when the ignition is switched off. On vehicles fitted with an automatic transmission, **Auto unlock** can also be selected when the transmission selector is moved to position **P** (park). You can also choose whether the driver's door only or all doors will be unlocked. Select the feature from the instrument panel Customisation menu. Refer to *Customisation menu* in chapter 1A.



Remote unlocking

Press the button to unlock the vehicle, to disarm the alarm and to switch on the interior lamp for a short time or until the ignition is switched on. The interior lamp will only come on if the switch is set to the position. Refer to *Interior (dome) lamps* in chapter 3.

From the **Two stage unlock** feature in the Customisation menu select how the remote unlocking works:

- Press the button once to unlock the driver's door only.
  Then press the button a second time to unlock all passenger doors.
  or
- Press the button once to unlock all doors.

Select **Flash remote unlock** from the Customisation menu to briefly flash the vehicle's turn signals once when the signal is received. Refer to *Customisation menu* in chapter 1A.

DOOR LOCKS cont.

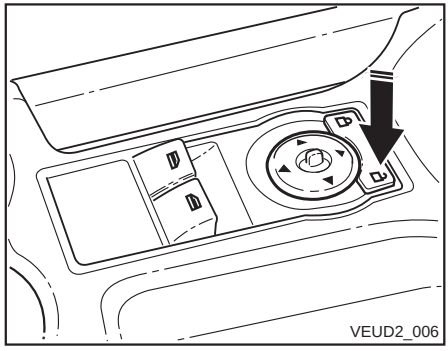
Manual unlocking

Insert the key into the lock of the driver's door and turn it once towards the front of the vehicle to unlock the driver's door. Turn it twice towards the front of the vehicle to unlock all doors.

Note This will not disarm the alarm system. If the vehicle is unlocked using the key in the door lock while the alarm is armed, opening a door will activate the alarm. Refer to *Notes about the keys* previously in this chapter.

Unlocking from the inside

Press the side of the switch with the symbol on the centre console to unlock all doors.



FREE TURNING DOOR LOCKS

The door lock cylinder is designed to free turn if it is forcefully rotated without the correct key or if the correct key is not fully inserted. To reset, turn the lock with the correct key fully inserted until its slot is vertical, remove the key and then re-insert it. If the lock still free turns, turn the key 180 degrees and repeat the procedure.

Note This feature is provided as a theft deterrent, to prevent the lock being forced open. The force required to make the key free turn, reduces each time. Do not attempt to demonstrate or test this feature. Always remember to fully insert the key when locking and unlocking the doors.

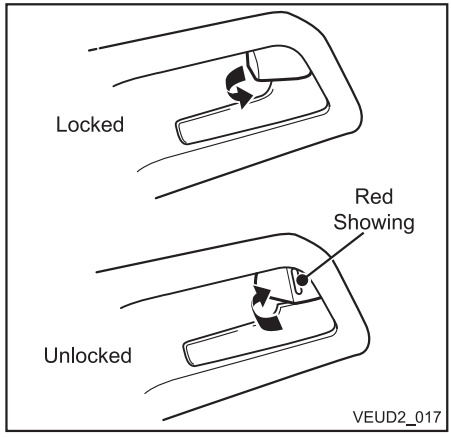
If any problems occur, contact your Holden Dealer.

DOOR LOCK SNIBS

How the door lock snibs work

When the door is closed, pulling the snib flush on any of the doors, locks only that door.

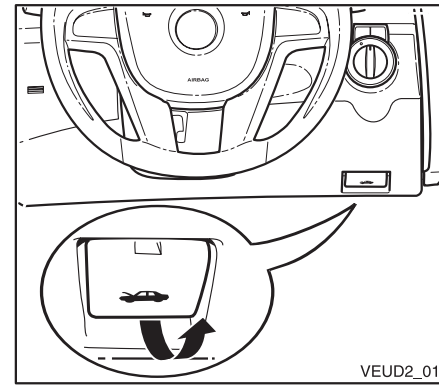
Note Do not operate the driver's door lock snib when the door is open.



BONNET LOCK

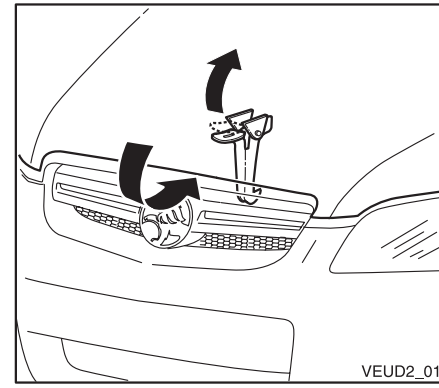
OPENING THE BONNET

From the driver's side of the vehicle, pull the lever towards you. This allows the bonnet to release but is prevented from opening by the safety catch.



To open the bonnet completely, reach under the bonnet to the passenger's side of the emblem and push up on the front edge of the release catch. Hold in this position and raise the bonnet.

After you have partially lifted the bonnet, gas struts automatically take over to lift and hold the bonnet in the fully open position.



CLOSING THE BONNET

WARNING

To avoid injury and/or damage to the vehicle, check each time, before the bonnet is closed, that the contact area is unobstructed.

Lower the bonnet until the gas struts stop, providing lifting effort and then allow it to drop. Make sure the latch engages.

WARNING

If while driving you notice that the bonnet has not been properly closed, pull the vehicle over to the side of the road at the earliest possible moment and close the bonnet correctly.

Note

- If the wiring of the bonnet switch is damaged or tampered with, it will be detected by the vehicle's control system. The alarm will be activated when the alarm system is armed.
- If the bonnet is not closed properly when the vehicle is locked the security warning lamp will flash immediately upon locking (without the 30 second illumination period). If this happens unlock the vehicle, close the bonnet properly and relock the vehicle.

HARD TONNEAU COVER LOCK*

WARNING

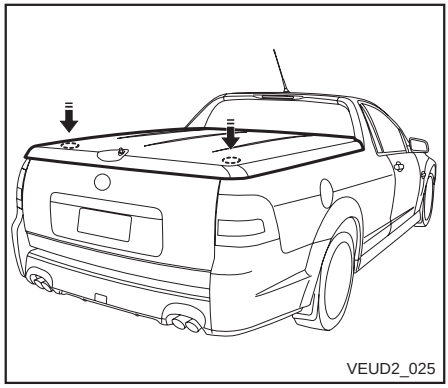
- Sitting or standing in the cargo area or on the surface of the hard tonneau cover* while the vehicle is in motion may lead to serious injury or death.
- Do not carry volatile materials or liquids within the cargo area while the hard tonneau cover* is shut as harmful fumes or gases may accumulate.
- Do not drive the vehicle while the hard tonneau cover* is open.
- In certain conditions, small amounts of dust and/or water particles may enter the cargo area via the hard tonneau cover*.
- Do not place heavy objects on the hard tonneau cover* as this may cause damage to the cover which may not be covered by warranty.

LOCKING AND UNLOCKING

Close the cover by pulling it down to the vehicle's body, then carefully press down above the two locks as shown until it latches securely.

Press the button on the key to lock both doors and the hard tonneau cover.

Press the button on the key to unlock both doors and the hard tonneau cover.

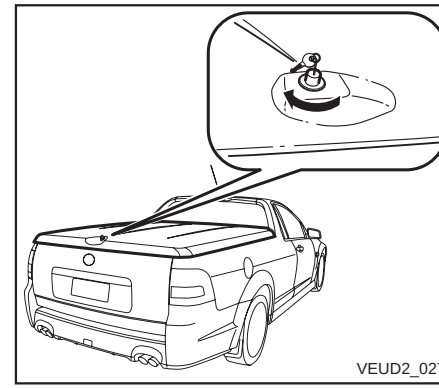

VEUD2_025

HARD TONNEAU COVER LOCK cont.*

Manual unlocking

Insert the hard tonneau cover key into the lock, turn it towards the driver's side to unlock, push the lock barrel and then lift to open.

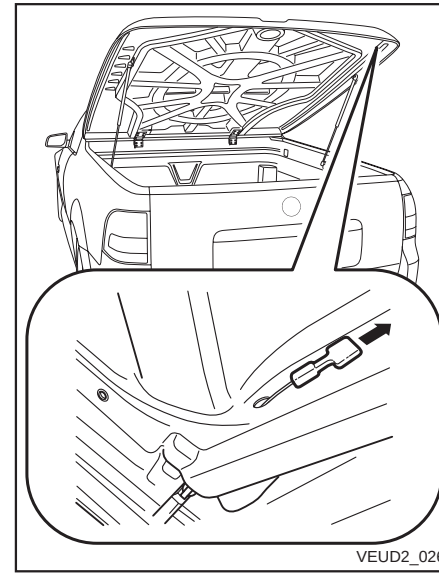
Note If the hard tonneau cover key is lost or damaged, contact your Holden Dealer.



Emergency hard tonneau cover release

An emergency release lever is provided on the underside of the cover near the latch. The lever glows in the dark.

Pull the lever to open the cover.



TAILGATE LATCH

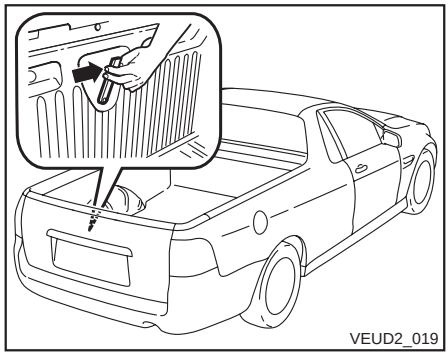
The tailgate latch is located on the inside of the tailgate.

While facing the front of the vehicle, turn the latch toward the passenger's side, to open.

To close, push the tailgate to the upright position until it engages.

WARNING

Do not operate the vehicle with the tailgate in the open position as cargo may fall from the load area and the number plate will be obscured from view.



SECURITY

ALARM

Arming and disarming

When the button on the key is pressed or when the vehicle is locked using the key in the driver's door lock, the alarm is armed automatically (after a short delay of approximately 30 seconds). The security warning lamp will illuminate for 30 seconds then begin flashing on the instrument panel.

The alarm system is disarmed automatically when the button on the key is pressed.

Note If either of the doors are unlocked without pressing the button on the key, while the alarm system is armed, opening either door will activate the alarm.

When activated

While the alarm is armed, it will be activated if either of the doors or bonnet are opened. If activated, the alarm sounds and the turn signals flash.

To deactivate the alarm, perform one of the following:

- Press the button on the key.
- Switch on the ignition.
- Allow the alarm to time out after about 30 seconds and reset itself, to guard against further break-in attempts.

Break-in

If the button on the key is pressed and the horn chirps, an attempted break-in has occurred while the alarm system was armed.

If the alarm has been activated, the **Alarm Activated** animation appears in the centre display for about one second followed by an animation showing which trigger point has activated the alarm. If there is more than one trigger point, an animation for each of them will follow.

Each animation will be displayed for about one second before the display returns to the **Alarm Activated** animation. The animations are shown in a continuous cycle until the **TRIP** button is pressed. It then reverts to the original trip computer display.

SECURITY cont.

The following messages are possible depending upon the model and what has activated the alarm:

- **by Bonnet** – if the bonnet has been opened.
- **by Passenger door** – if the passenger door has been opened.
- **by Driver's door** – if the driver's door has been opened.

Notes about the alarm

- The button on the key will not lock an open door. The open door will remain unlocked and the horn will chirp five times.
- Pressing the button on the key once:
  - Locks both doors.
  - Arms the alarm (after a short delay).
  - Switches the interior dome lamp off (if the switch is set to door position).
  - Flashes the exterior turn signals (if selected in the Customisation menu).
  - Deactivates the power windows (after a predetermined period of time).
- Pressing the button on the key a second time:
  - Chirps the horn (if selected in the Customisation menu) and arms the alarm immediately, bypassing the 30 second delay period.
- Pressing the button on the key once:
  - Unlocks either the driver's door only or both doors (depending on your setting in the Customisation menu).
  - Disarms the alarm.
  - Switches on the interior dome lamp (if the switch is set to the position) and power windows for a short time.
  - Flashes the exterior turn signals (if selected in the Customisation menu).
  - Switches on the approach lighting for a predetermined time. Refer to *Lights* in chapter 1A.
- Pressing the button a second time:
  - Unlocks the passenger's door (if pressing the first time, unlocked the driver's door only).
  - Flashes the exterior turn signals (if selected in the Customisation menu).
  - Reactivates the approach lighting again.

SECURITY cont.

Immobiliser

This vehicle is fitted with an immobiliser. It prevents unauthorised engine starting.

The ignition key will be recognised by the vehicle when the key is inserted into the ignition switch allowing the engine to be started.

When difficulties in starting the vehicle are experienced, check the following points. If the vehicle still fails to start, contact your Holden Dealer.

- The vehicle will only start with the foldaway key blade* fully extended.
- Avoid having large bundles of keys attached to the ignition key.
- Avoid having keys from other vehicles attached to the ignition key.
- Do not attempt to start the vehicle with a non-approved key.

Note

- Do not disassemble key.
- Replacement keys can only be programmed by your Holden Dealer.
- If the vehicle's key is lost, inform your Holden Dealer immediately so the vehicle can be reprogrammed to no longer recognise the missing key as valid.
- A maximum of 4 keys can be programmed to suit one vehicle.

CHAPTER 3

Know your vehicle

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Sports bar* 3-34

*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

SEATS

FRONT SEATS

WARNING

Do not adjust the driver's seat when the vehicle is moving as the seat could move suddenly causing the driver to lose control.

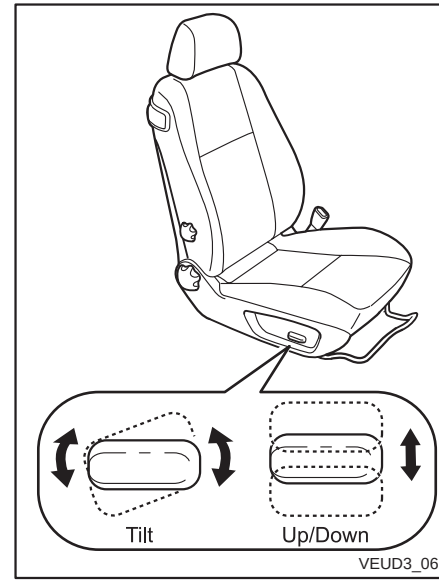
Seat adjustment (seats with a single switch, 4-way)

To adjust the height*:

- Move the whole of the switch up to raise the seat.
- Move the whole of the switch down to lower the seat.

To adjust the tilt*:

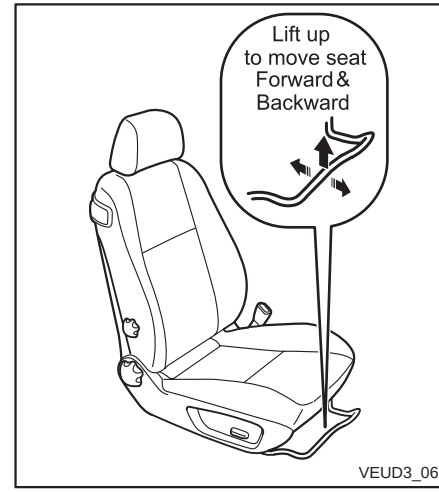
- Tilt the switch up at the front to tilt the front of the seat up.
- Tilt the switch down at the rear to tilt the seat down at the rear.



To move the seat forwards/backwards:

- Lift up the bar at the front of the seat, to disengage the latch,
- Slide the seat forwards or backwards,
- Release the bar, to re-engage the latch.

Note Try to move the seat back and forth to check that the latch is fully engaged.



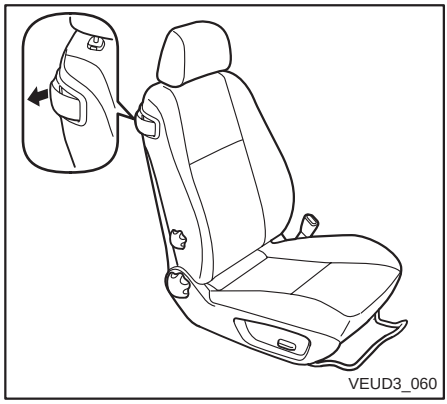
SEATS cont.

To tilt the seat forward:

- Pull the dump latch lever on the side of the seat back. The seat will tilt forwards.
- To return the seat to its original position, push the seat back rearward until the latch is locked in position.

Note

- Put the sun visor up before tilting the seat forwards.
- Ensure the seat back is fully locked in its rearward position.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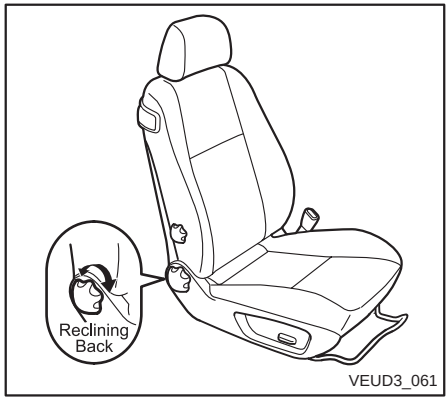
To recline the seat back:

- Turn the lower hand wheel on the door side of the seat in the direction you want the seat back to move.

WARNING

To avoid reducing the effectiveness of seatbelts, seat backs should only be upright or at most semi-reclined when the vehicle is moving.

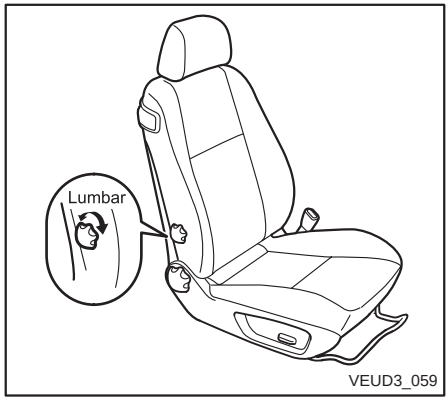


VEUD3_061

To adjust the lumbar support*:

- Turn the upper hand wheel (on the door side of the seat).

This alters the support given to the lower part of your back.



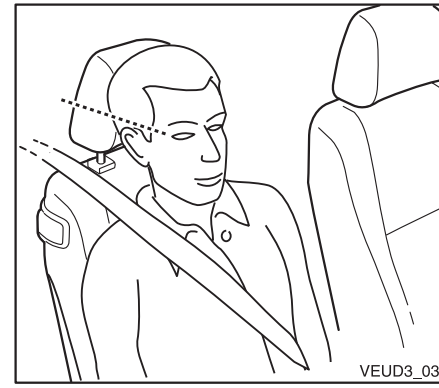
VEUD3_059

SEATS cont.

Head restraint

WARNING

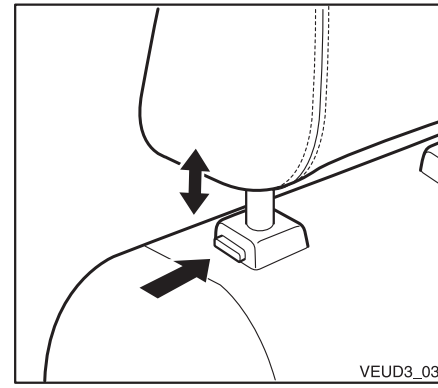
- This safety feature is not intended as a headrest. It is solely for the reduction of whiplash neck movement in an accident involving your vehicle.
- The centre of the head restraint should be at eye level, never at neck level.



To raise the height of the head restraint, lift the head restraint upwards.

To lower the height of the head restraint, push in the locking button at the base of the head restraint pole and push the head restraint downwards.

Note The head restraints cannot be removed.



RESTRAINTS

SEATBELTS

WARNING

- Seatbelts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.
- Seatbelts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.
- Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.
- It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.
- Belts should not be worn with straps twisted.
- Each belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.
- No modifications or additions should be made by the user which will either prevent the seatbelt adjusting devices from operating to remove slack, or prevent the seatbelt assembly from being adjusted to remove slack.

Pregnant women

Seatbelts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear a seatbelt. A pregnant woman should wear a lap/sash belt with the lap portion of the belt worn as low as possible below the rounding of their stomach, throughout the pregnancy.

RESTRAINTS cont.

Lap/sash belts

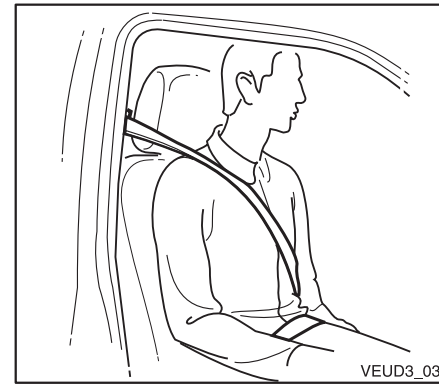
To fasten the seatbelt:

- Pull the metal tongue across your body and clip it into the buckle.
- When the metal tongue is locked safely into place you will hear a ‘click’.
- Give a gentle pull on the buckle to ensure full engagement.
- After fastening, settle the belt at the hip, and run your hand under the sash from hip to shoulder to ensure that the belt fits comfortably and is free from twists. Any extra belt length retracts automatically.
- Ensure the lap section of the belt is also free from twists and fits firmly across your hips.

Note For your safety, wear the lap section of the seatbelt as low as possible on your hips, not on your waist or abdomen.

The ‘emergency-locking retractor belt’ allows you to move while the vehicle is travelling normally, but locks immediately on fast braking, impact with a solid object or any quick movement by the wearer.

To undo the belt, press the release button on the buckle and allow the belt to retract. Check that it fully retracts without twisting or turning.



RESTRAINTS cont.

CHILD RESTRAINTS

WARNING – EXTREME HAZARD

- Do not use a rearward facing child restraint on a seat protected by an airbag in front of it.

  The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.

WARNING

- This manual provides you with general information concerning child restraints only.
- The driver is required by law to ensure that passengers are suitably restrained. In most States and Territories of Australia, specific laws may exist which require children to be seated in approved child restraints.
- Holden strongly recommends that you refer to your specific State or Territory regulations to determine which child restraint is suitable for your child.

WARNING

- Always ensure that the seatbelt fits firmly around the child restraint.
- If a child cannot see out of the window, do not raise him/her by means of an ordinary cushion. It will not stay in place in a collision and the child can slip out of the straps and become entangled.

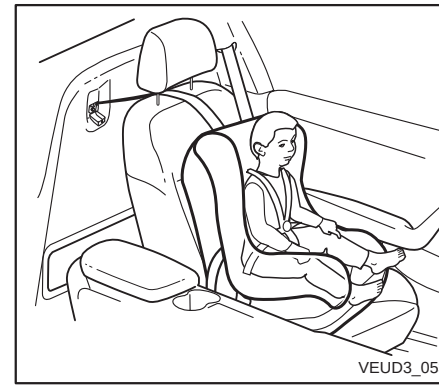
WARNING

- Always follow the child restraint manufacturer's fitting instructions when installing a child restraint into the vehicle.

RESTRAINTS cont.

Young children

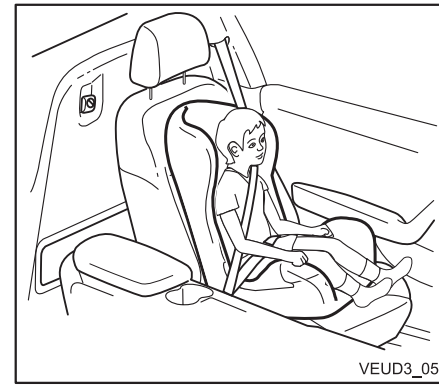
Forward facing child seats are for use when the child is able to sit and easily hold his or her head upright.


VEUD3_053

Recommended weight for forward facing child seat
Weight
8 to 18 kg*

*AS/NZS 1754:2004

Booster seats are for when children outgrow a typical forward-facing child seat but they are still too small for lap/sash seatbelts. A booster seat raises the child so that the knees bend comfortably, the lap/sash seatbelt is correctly positioned and the child can see out the window. A rigid booster seat with a back, side wings and sash guide gives the best protection.


VEUD3_054

Recommended weight for booster seat with lap/sash seatbelt
Weight
14 to 26 kg*

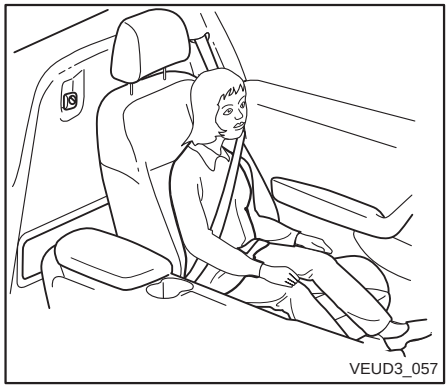
*AS/NZS 1754:2004

RESTRAINTS cont.

Older children

A child should use a normal seating position and a lap/sash seatbelt without a booster or child safety seat only when:

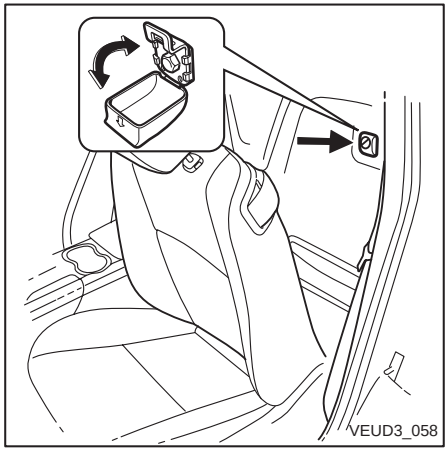
- he/she can sit against the back of the seat with knees bent comfortably at the edge of the seat,
- lap belt rests low and snug across the hips – not across the stomach,
- the sash belt is centred on the shoulder and chest,
- he/she is able to stay seated like this for the entire trip.


VEUD3_057

Anchorage points

- Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seatbelts, harnesses, or for attaching other items or equipment to the vehicle.
- Only child restraints that have clips to attach to the vehicle's anchorage fitting (as shown in the following illustrations) are to be used. Earlier types of child restraints may not attach securely to this type of anchor.
- Use only Standards Australia approved child restraints and harnesses. Only purchase a child restraint which carries the appropriate Standards Australia sticker of approval.
- Where legally allowable, you may install a forward-facing child restraint in the front seat, but always move the passenger's seat as far back as it will go.

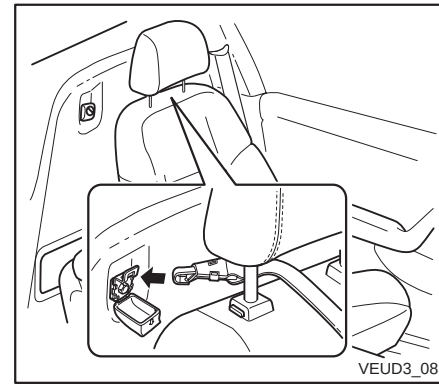
Your vehicle is fitted with a single anchorage point for the fitment of a child restraint. An anchorage fitting has been provided behind the passenger seat on the cabin wall.


VEUD3_058

RESTRAINTS cont.

Lift the head restraint up to thread the tether strap through.

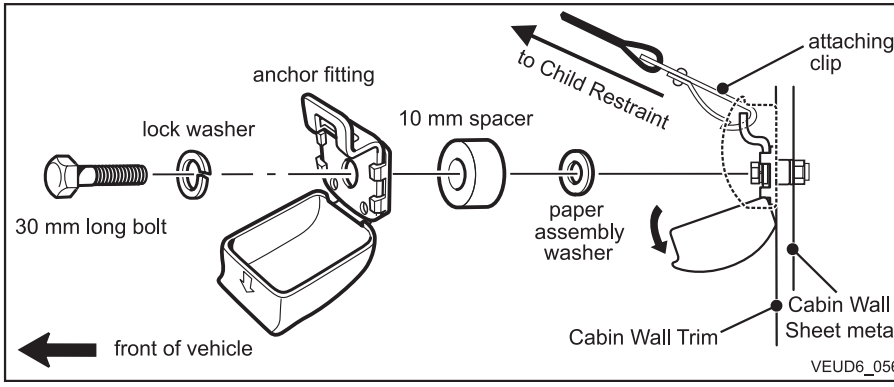
Note Adjust the head restraint to the appropriate height once the child restraint is removed. Refer to *Head restraints* previously in this chapter.



Holden child restraint anchor fitting

If the child restraint anchor fitting is ever removed ensure that the bolt is securely tightened to 20 ± 5 Nm (Newton metres). Check with your Holden Dealer if unsure.

Note If unsure about installing a child restraint anchor fitting, please contact an approved restraint fitting station or your Holden Dealer.



SUPPLEMENTAL RESTRAINT SYSTEM

AIRBAGS

When airbags inflate, an operating noise may be heard and a small amount of smoke-like gas is released. The gas is harmless and does not indicate malfunction or fire. The airbag then deflates, with the whole process taking only a moment.

WARNING

- Airbags are part of the 'Supplemental Restraint System (**SRS**)' as they assist, but do not replace seatbelts. Airbags do not deploy in every accident. Various factors dictate whether they deploy including speed, angle of collision and object hit. Airbags are not designed to inflate if the vehicle is hit from the rear or is involved in a rollover. Seatbelts must be worn by all passengers whenever the vehicle is moving.
- Airbags inflate with great force. If you are too close to an inflating airbag it may cause injury. Seatbelts help keep you in position for airbag inflation in the event of a collision.

Fifteen seconds after any airbag or seatbelt pretensioner has been activated (the vehicle has stopped and provided there is battery power), the vehicle will:

- unlock the doors
- switch off the fuel pump
- switch on the hazard lamps
- switch off the engine
- switch on the interior lamp

Switch the ignition off and then on if restarting the engine is required.

An **SRS** warning lamp on the instrument panel illuminates for a few seconds when the ignition is switched on. This is to indicate that the airbags are operational. If the lamp does not illuminate when the ignition is switched on, or if it illuminates when driving, contact your Holden Dealer immediately, as the airbags and seatbelt pretensioners may not function correctly in the event of an accident.

The warning lamp illuminates after an accident if any airbags or seatbelt pretensioners have activated. Refer to *Warning/reminder indications* in chapter 1A.

After an accident in which the driver's airbag system is deployed, the steering wheel, steering column, airbag, seatbelt retractor, seatbelt buckle, Sensing Diagnostic Module (SDM) and sensor(s), must be replaced. The occupied front seat must be checked for seat base and seat back deformation.

After passenger's airbag deployment, the airbag assembly, seatbelt retractor, seatbelt buckle and the upper part of the instrument panel must be replaced. The occupied front seat must be checked for seat base and seat back deformation.

It is recommended that this work be carried out by a Holden Dealer or approved repairer.

The system should also be inspected by a Holden Dealer if the dashboard area or steering wheel is scratched, cracked or damaged.

Extensive design and testing has gone into the Holden airbag system. However, it should be treated with respect. Any interference with the system could lead to its failure or to accidental inflation.

Any work to the electrical system, steering column, dashboard area, steering wheel or airbag system should only be carried out by an authorised Holden Dealer.

Note Fitting a roo bar or nudge bar can change the impact speed which would normally cause the front airbags to inflate, reducing effectiveness and potentially increasing the risk of injury and repair cost. Refer to *Add on equipment* in chapter 4.

SUPPLEMENTAL RESTRAINT SYSTEM cont.

Airbags and child restraints

WARNING – EXTREME HAZARD

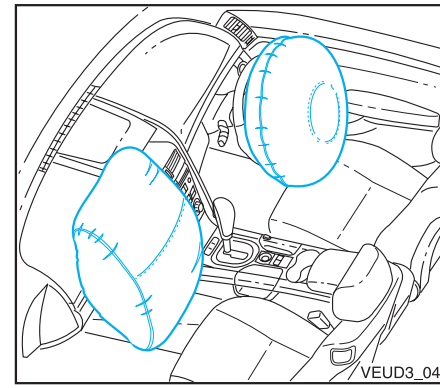
- Do not use a rearward facing child restraint on a seat protected by an airbag in front of it.

  The child could be seriously injured if the airbag inflates, as the child's head would be very close to the inflating airbag.

Refer to *Child restraints* previously in this chapter.

Front airbags

The driver's airbag is stored inside the steering wheel. AIRBAG is stamped on the steering wheel and a label is attached under the driver's side sun visor.



WARNING

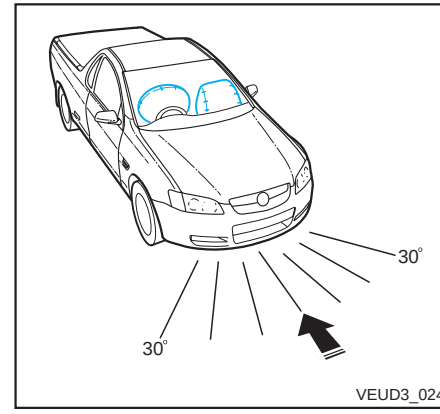
- The horn pad must not be covered with adhesive or any other material.
- The driver should adjust the seat as far rearward as possible while still maintaining control of the vehicle.

The front passenger's airbag is stored in the dashboard. The wording AIRBAG above the glovebox and a label attached under the sun visor indicate that a passenger airbag is fitted.

WARNING

- Do not place any objects on or over the dashboard or between an airbag and yourself.
- Do not hang anything from the sun visor or mirror.
- Passengers must not rest their feet on the dashboard.

Front airbags will inflate in certain severe frontal or near frontal impacts. Front airbags are not designed to inflate if the vehicle is struck from the side, rear or in rollovers. Always wear a seatbelt.



SUPPLEMENTAL RESTRAINT SYSTEM cont.

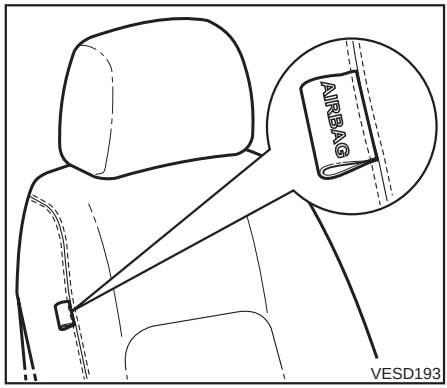
Side Impact Airbags (SIAB)

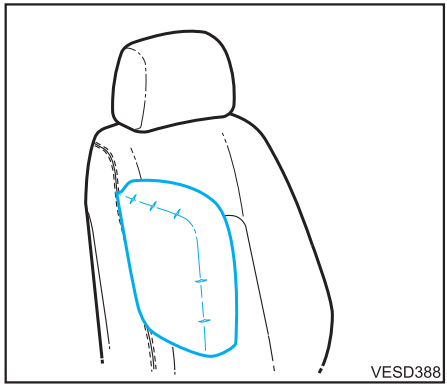
Side Impact Airbags (SIAB) for the driver and passenger are stored in the side of the seat backs closest to the door. Side Impact Airbag (SIAB) labels are on the side of the seat backs.

A SIAB only deploys on the side of the vehicle that is struck.

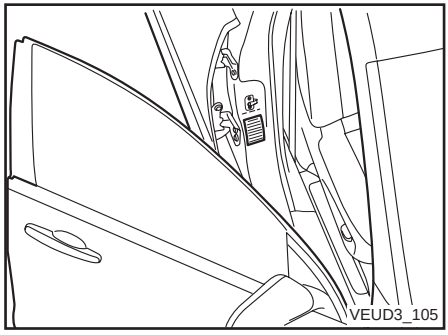
Note

- A Side Impact Airbag (SIAB) will deploy and offer protection in most, but not all, severe side impacts. Because of the limited time available to detect some side impacts, it is not possible to deploy the SIAB in all serious accidents (for example, some pole impacts).
- A Side Impact Airbag (SIAB) will deploy in certain severe side impacts. SIAB are not designed to inflate if the vehicle is struck from the front, rear, or in rollovers. Always wear a seatbelt.





- Side Impact Airbags (SIAB) labels are on both door lock pillars.



WARNING

- Do not fit unauthorised seat covers as they may impair the deployment of the Side Impact Airbags (SIAB).
- Do not position your body or any object (including pillows) between front seats and doors.
- Do not lean on, or sleep against, the door. Always sit centrally in the seat.
- Always wear your seatbelt.

SUPPLEMENTAL RESTRAINT SYSTEM cont.

Curtain airbags

The vehicle is fitted with curtain airbags. Labels are on the vehicle in the positions shown.

Curtain airbags are stored in the roof area, just above the doors. The curtain airbag only deploys on the side of the vehicle that is struck.

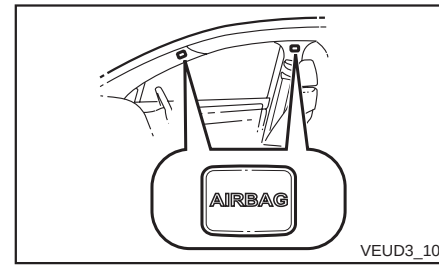
Curtain airbags will deploy in certain severe side impacts to the passenger area.

Note

- A curtain airbag will deploy and offer protection in most, but not all, severe side impacts. Because of the limited time available to detect some side impacts, it is not possible to deploy a curtain airbag in all serious accidents (for example, some pole impacts).
- A curtain airbag will inflate in certain severe side impacts. Curtain airbags are not designed to inflate if the vehicle is struck from the front, rear or in rollovers. Always wear a seatbelt.
- Curtain airbags labels are on both door lock pillars.

WARNING

- Do not position your body or any object (including pillows) in the area in which the airbag inflates.
- There must be no objects in the area in which the airbag inflates. Refer to the illustration.
- Use the hooks above the doors only to hang up light articles of clothing.
- Do not place any objects in the pockets of the hanging items.
- Do not hold onto the assist grips (above the doors) while seated in the vehicle.
- Always wear your seatbelt.
- Do not lean on, or sleep against the doors. Always sit centrally in the seat.



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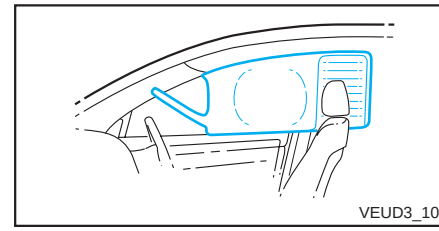
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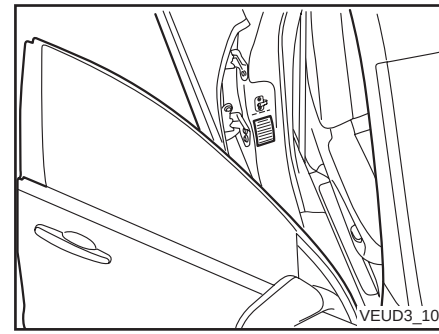
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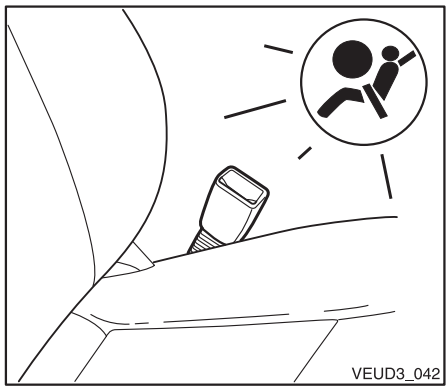
SUPPLEMENTAL RESTRAINT SYSTEM cont.

SEATBELT PRETENSIONERS



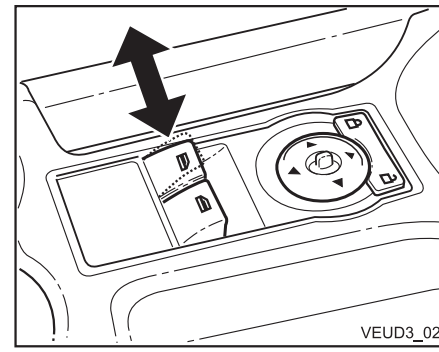
The seatbelt system incorporates seatbelt pretensioners. They are part of the Supplemental Restraint System (**SRS**). In certain severe frontal or rear collisions, both belt buckles are pulled downwards, instantly tightening both the sash and the lap sections of the seatbelt.

If the seatbelt pretensioners have been activated, the **SRS** warning lamp on the instrument panel will stay illuminated when the ignition is switched on. This is designed to remind you that the pretension system has been used and therefore needs to be replaced by your Holden Dealer. The seatbelts will remain operational.

If the **SRS** warning lamp comes on at any other time, or if the warning **Airbag Fault** is displayed on the instrument panel centre display, have the system checked by your Holden Dealer immediately. Refer to *Warning/reminder indications* in chapter 1A.

POWER WINDOWS

OPERATING THE POWER WINDOWS



The power window switches are located between the front seats.

The switches are operational when the ignition is switched on or the button on the key is pressed.

WARNING

Before operating the power windows, check they are free of obstructions and that passengers and pets are not in the proximity of the moving window.

Power windows

For incremental operation, briefly pull or press the switch.

To open the windows fully, press and hold the switch down for at least half a second and then release. Press down again or pull up the switch to interrupt the automatic operation.

Time delay

After pressing the button or after switching the ignition to LOCK, the power windows can be operated for 10 minutes, provided no door is opened.

If either door is opened after 45 seconds from the ignition being switched to LOCK, the power windows will be disabled.

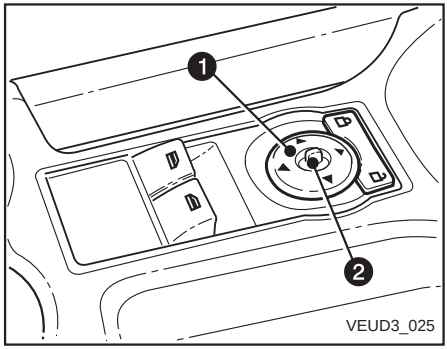
If either door is opened within 45 seconds from ignition being switched to LOCK, the power windows will remain operational for 45 seconds.

MIRRORS

EXTERNAL REAR VIEW MIRRORS

To adjust the external rear view mirrors, switch the ignition on and use the switches in the centre console as follows:

- Move switch ❷ to the right to operate the right hand side mirror.
- Move switch ❷ to the left to operate the left hand side mirror.
- Press the arrow on switch ❶ to adjust the mirror to the direction the arrow is pointing to (i.e. up, down, left or right).
- Move switch ❷ back to its centre position. This deactivates switch ❶ and prevents unintentional adjustment of the mirrors.



WARNING

The passenger's side mirror is convex shaped, to provide a wider view. Objects in this mirror are closer than they appear.

MIRRORS cont.

INTERNAL MIRRORS

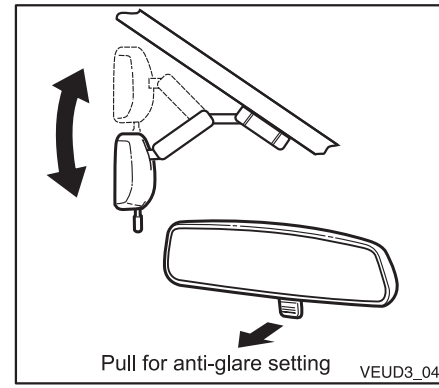
Internal rear view mirror

Push the lever on the lower edge of the mirror forwards (away from you) and then adjust the position of the mirror.

To reduce headlamp glare from following vehicles, pull the lever backwards (towards you).

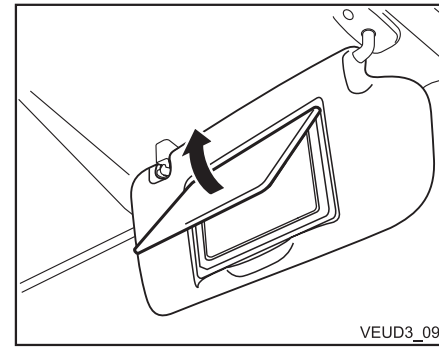
Note The rear view clarity is reduced when the mirror is set to the anti-glare position.

Return the lever back to its original position as soon as the glare has disappeared to restore the rear view.



Vanity mirrors

To view the mirror, pull the cover up from the lower edge.



INTERIOR LAMPS

OPERATING THE INTERIOR LAMPS

Note The operation of interior lamps is also affected by the battery saver feature. Refer to *Battery saver* further on in this chapter.

Interior (dome) lamp

The interior lamp is located in the centre-front of the roof.

Two settings are available:

- = on/off

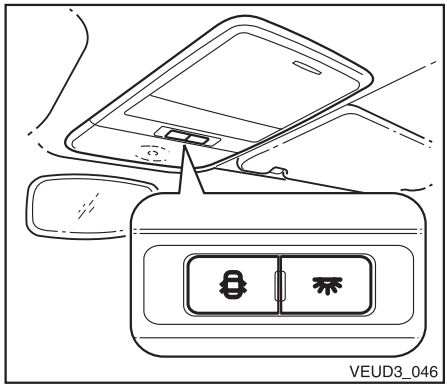
Press the button once to switch the lamp on continuously.

Press the button again to switch the lamp off.

- = door activated

The lamp automatically switches on when either door is opened, the vehicle is unlocked, or the key is removed from the ignition. It dims to off after all doors are closed. Switching the ignition on dims the lamps off immediately (unless a door remains open).

Note When the interior lamps are set to door activated they operate automatically only when it is dark.


VEUD3_046

STORAGE COMPARTMENTS

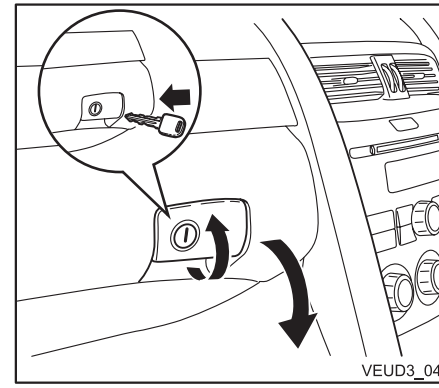
GLOVEBOX

The glovebox is located in the dashboard directly in front of the passenger seat.

To open the glovebox, pull the handle towards you. To close, push the lid firmly back into place.

A key is provided solely to lock and unlock the glovebox. Refer to *Keys* in chapter 2.

Note For security, the ignition key is not designed to operate the glovebox lock.



CENTRE CONSOLE

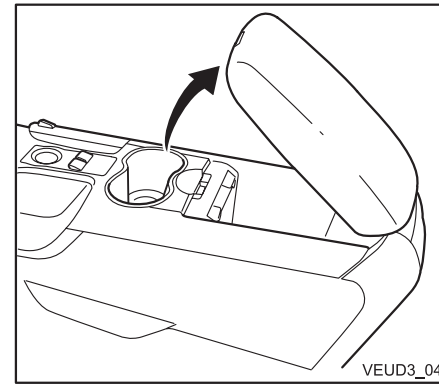
A storage area is provided under the front armrest.

To open, lift the latch on the underside of the front lip and lift the lid to a near vertical position.

There is a coin holder towards the front of the console.

Note Do not force the console lid further backwards.

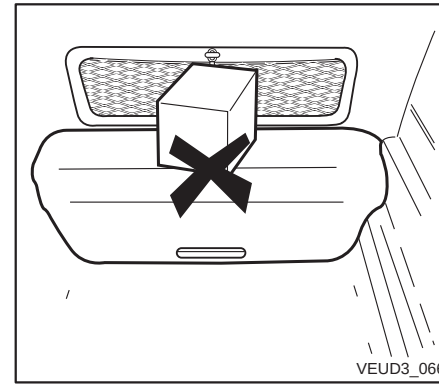
The console provides space to accommodate a standard mobile telephone/charger, which can be plugged into the power socket located inside the console. Refer to *Power socket* further on in this chapter.



BATTERY STORAGE COMPARTMENT

WARNING

Do not place any heavy, hard or sharp objects on top of the battery storage compartment behind the passenger's seat.



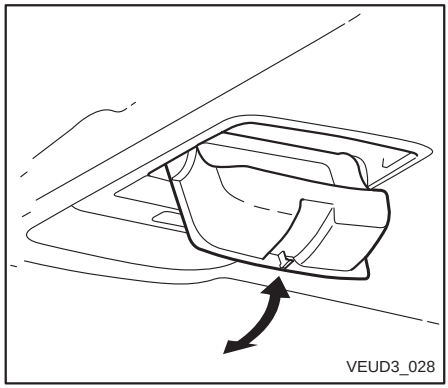
STORAGE COMPARTMENTS cont.

SUNGLASSES HOLDER

The sunglasses holder is located in the roof and is designed to accommodate one pair of sunglasses.

To open, push in the rear of the lid and release it.

To close, swivel the holder back to its original position and press in the rear of the lid to engage the latch.



CUP HOLDERS

Cup holders are designed for holding standard size soft drink cans and smaller size bottles. Larger drink bottles or cups should not be forced into the cup holders, or they may become jammed.

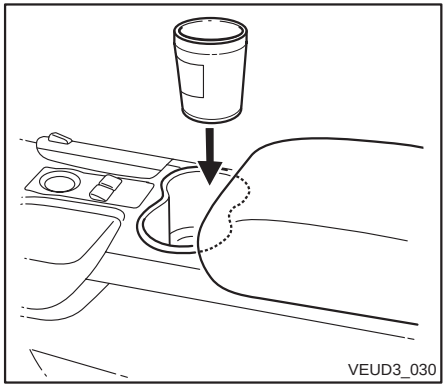
Note Only place cups with lids in the cup holders. This helps to avoid spillage while accelerating and braking.

WARNING

To avoid scalding, never place hot drinks in the cup holders.

The cup holders are located forward of the centre console.

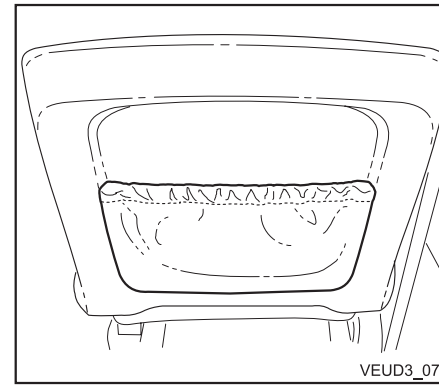
Note The rubber cup holder lining can be removed for cleaning.



STORAGE COMPARTMENTS cont.

FRONT SEAT-BACK POCKETS

A storage pocket is located on the rear of both front seats.

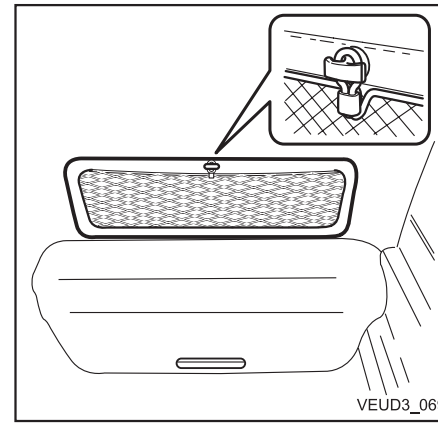


CABIN STORAGE COMPARTMENTS

Storage compartments are located at the rear of the cabin for the storage of lightweight items, not exceeding 2 kg in total (e.g. street directories, folders, maps).

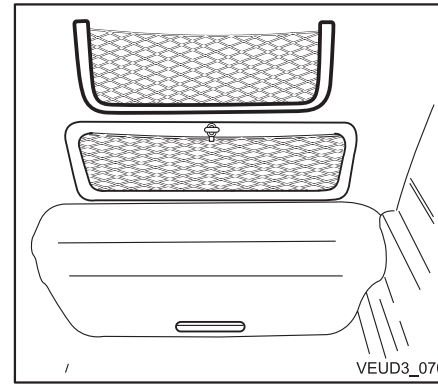
Items must be securely restrained by the net. Ensure the netting loop is securely restrained by the hook. Ensure the netting loop is securely hooked when a storage compartment is in use.

Heavy and/or sharp objects (e.g. loose tools) should not be stored in these compartments.



Net pocket*

The net pocket is located at the rear of the cabin, for the storage of lightweight items.

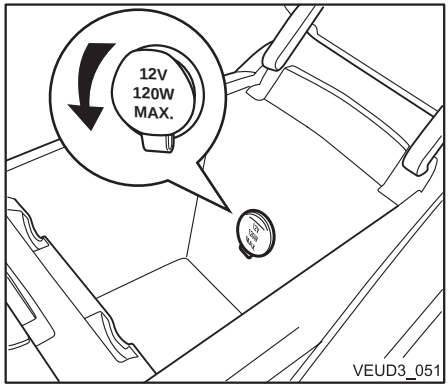


POWER SOCKET

The power socket is located inside the centre console.

The power socket is operational when the ignition is switched to either ON or ACCESSORIES.

Note Any accessory device (e.g. mobile phone, car fridge) connected to the power socket must not exceed a current draw of 10 amps.



WARNING

It is dangerous for the driver of a vehicle to attach or remove accessories from the power socket while driving. It may distract the driver's attention, putting the occupants of the vehicle and other road users at risk.

RETAINED ACCESSORY POWER AND BATTERY SAVER

RETAINED ACCESSORY POWER (RAP)

The power windows will work when the key is in the ON or ACCESSORIES positions. Once the ignition is switched to LOCK, the RAP allows the power windows to continue to operate for up to 10 minutes. If a door is opened during this period, they will be deactivated.

Note The audio system will be deactivated only if the driver's door is opened.

BATTERY SAVER

To prevent the battery from discharging, the lamp for the hard tonneau cover* is switched off automatically approximately 10 minutes after the key is switched to LOCK.

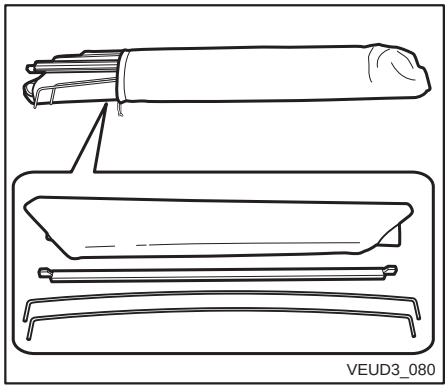
Once the lamp has been deactivated, it is reactivated if any of the following occur:

- The ignition is switched on.
- The vehicle is unlocked.
- The hard tonneau cover* is opened.

*SOFT TONNEAU COVER**

INSTALLING THE TONNEAU COVER

1. Remove the cover, front bar and bows from the tonneau cover bag.

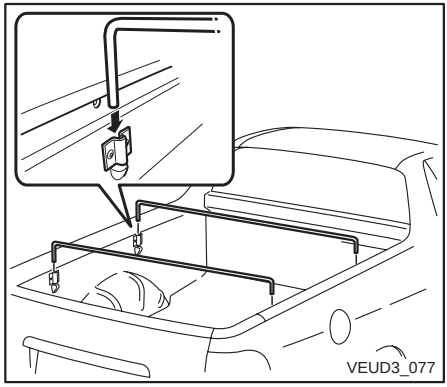

VEUD3_080

Installing bows

The tonneau cover is supplied with two bows.

Note The front and rear bows are different lengths. The front bow inserts nearest the front of the vehicle and is the longer of the two.

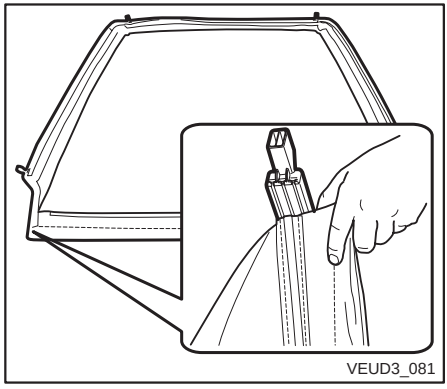
2. Slide each bow through the tonneau bow support bracket provided, as shown.


VEUD3_077

Fitting the front bar to the tonneau cover

3. To attach the front bar to the tonneau cover, lay the tonneau cover out flat, with the inside facing up.
4. Using one of the three slots provided on the bar, slide the bar along the mounting strip on the forward end of the cover.

   Note When the cover is new the centre slot should be used. As the cover ages, the other slots may be used to achieve a tighter or looser fit, as required.

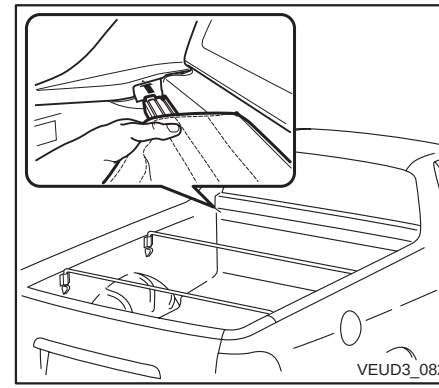

VEUD3_081

SOFT TONNEAU COVER* cont.

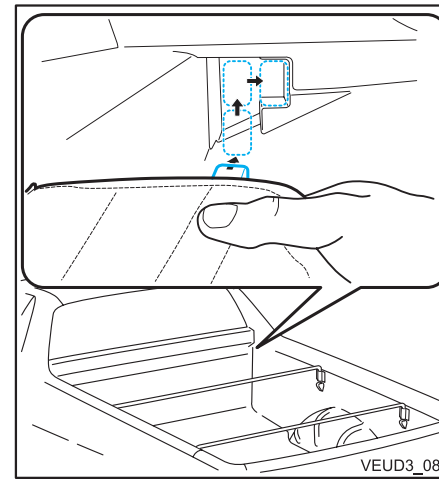
Fitting the tonneau cover

5. Place the tonneau cover roughly in position over the tray with the attached bar towards the front of the vehicle.
6. Fit one end of the bar into either the left-hand or right-hand slot as shown.

   Note Do not twist or bend the front bar when fitting the tonneau cover as this may damage the bar.

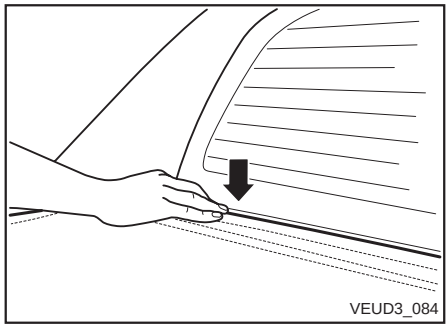


7. Position the other end of the front bar into the opposite slot, lift upward the rearward as shown.

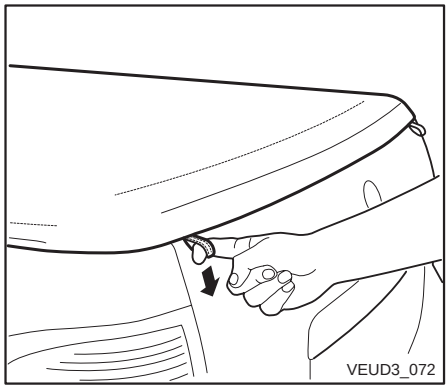


SOFT TONNEAU COVER* cont.

8. The front edge of the cover has a magnetic strip, ensure it is seated down correctly.

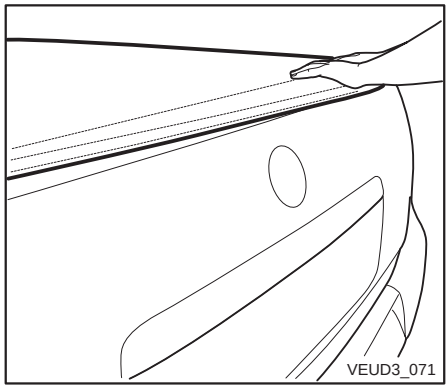


9. Lay the tonneau cover over the bows.
10. Starting from the rear, use the finger loops to pull the cover's plastic strip over the slot provided around the top edge of the load area.



11. Push down with your hands to smooth the rear strip into place along the slot.
12. After the cover is attached at the rear, the same attachment method is used on both sides. Begin near the front where finger loops are provided.

    Note The cover may be tight to fit when new.



SOFT TONNEAU COVER* cont.

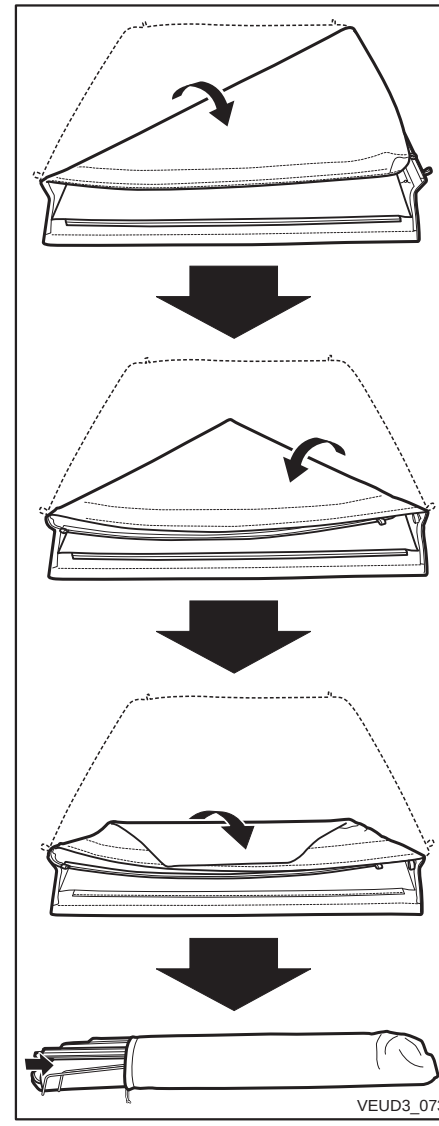
REMOVING THE TONNEAU COVER

1. Using the finger loops provided, remove the cover by pulling the loops out and up. From underneath the cover, remove the front bar on one side, by pushing it towards the front of the vehicle and tilting down. The other end of the bar will follow.
2. The two bows, front bar and cover can be folded and stored in the bag provided.

Folding

1. Lay the cover on a flat surface, inside facing up.
2. Fold one of the rear corners up as shown.
3. Fold the other rear corner up as shown.
4. Fold and Roll up the cover as shown.

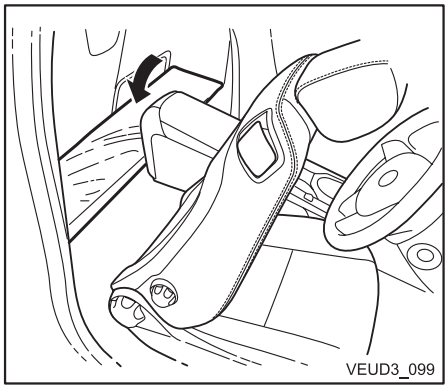
   Note Folding and rolling in this way ensures the plastic sides are not bent.
5. Place the folded cover, front bar and bows in the bag provided. Store in a dry secure location.



SOFT TONNEAU COVER* cont.

Storing

The soft tonneau cover, front bar and bows may be stored behind the front seats as shown.

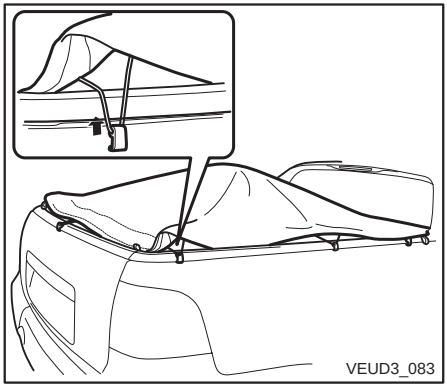


FITTING THE TONNEAU COVER WITH HIGH LOADS

The cover can be adjusted for higher loads.

1. Remove the two bows if required.
2. Attach the front of the cover. Refer to *Installing the tonneau cover* previously in this chapter.
3. Lay the remainder of the cover roughly in position.
4. Underneath the cover there is a cord with attaching clips. Working around the vehicle, place the clips in the slot provided, as shown.

   Note When removing the cover, the clips can be removed by pulling them out and up.



*HARD TONNEAU COVER**

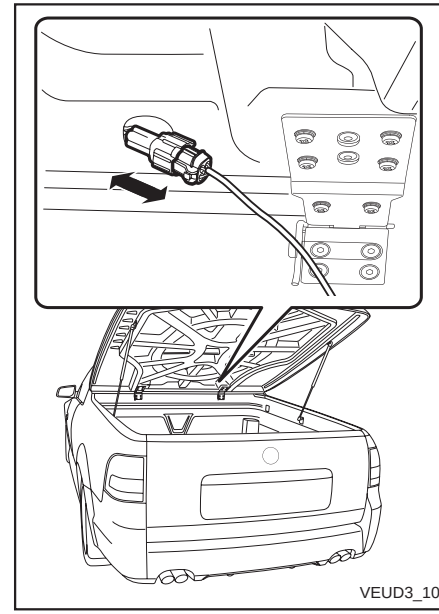
WARNING

- Sitting or standing in the cargo area or on the surface of the hard tonneau cover* while the vehicle is in motion may lead to serious injury or death.
- Do not carry volatile materials or liquids within the cargo area while the hard tonneau cover* is shut as harmful fumes or gases may accumulate.
- Do not drive the vehicle while the hard tonneau cover* is open.
- In certain conditions, small amounts of dust and/or water particles may enter the cargo area via the hard tonneau cover*.
- Do not place heavy objects on the hard tonneau cover* as this may cause damage to the cover which may not be covered by warranty.

Removal of the hard tonneau

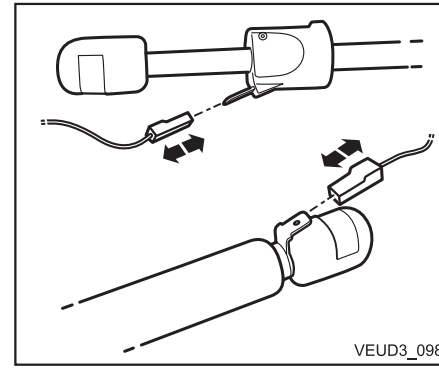
Note before attempting to remove the hard tonneau cover open the tailgate.

1. Open the tonneau cover, locate the wiring plug and disconnect as shown.


VEUD3_108

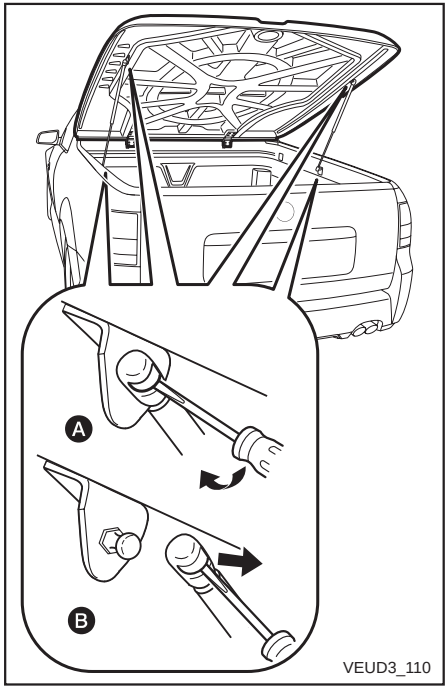
2. Remove the wiring connectors at the upper and lower ends of the left hand strut.

   Note Ensure the strut is refitted in the same orientation with the large diameter shaft upward.

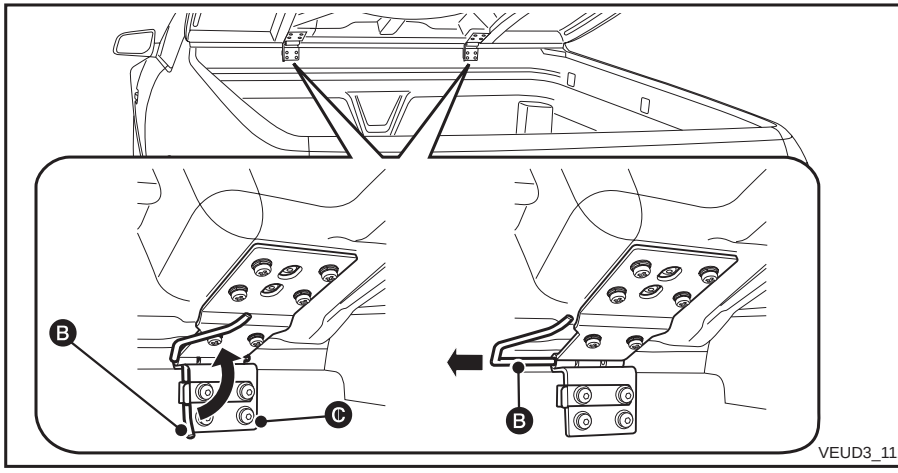

VEUD3_098

HARD TONNEAU COVER* cont.

3. With the aid of an assistant hold the tonneau cover in its open position.
4. Remove the struts from the upper ball pins. Using a small flat-bladed screwdriver, lever the retaining clips open approximately 3 mm as shown at Ⓐ.
5. While holding the screwdriver and the clip in the open position, remove the strut from the ball pin as shown at Ⓑ.
6. Carefully lay the struts down in the load area.



HARD TONNEAU COVER* cont.



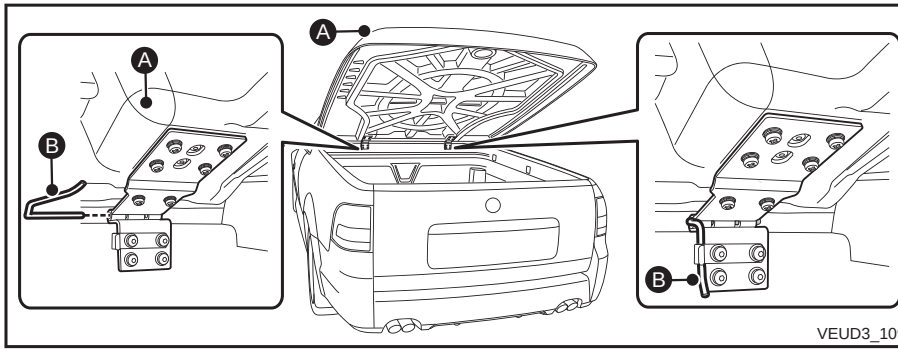
7. Lift the retaining pins Ⓑ away from their retaining clips Ⓒ.
8. Slide both retaining pins Ⓑ towards the left hand side of the vehicle and remove.
9. Carefully lower the tonneau cover down to its closed position.

   Note
   - Take care not to damage the tonneau cover or the vehicle.
   - Ensure there is a enough room above the vehicle.
   - Take care in strong winds.
10. Remove the cover from the vehicle and store in a secure location in an upright position on it's hinges to avoid damage to the cover.
11. Remove the struts from the lower ball pins by repeating steps 5 and 6.

    Note Store the gas struts and retaining pins in a secure location with the tonneau cover.

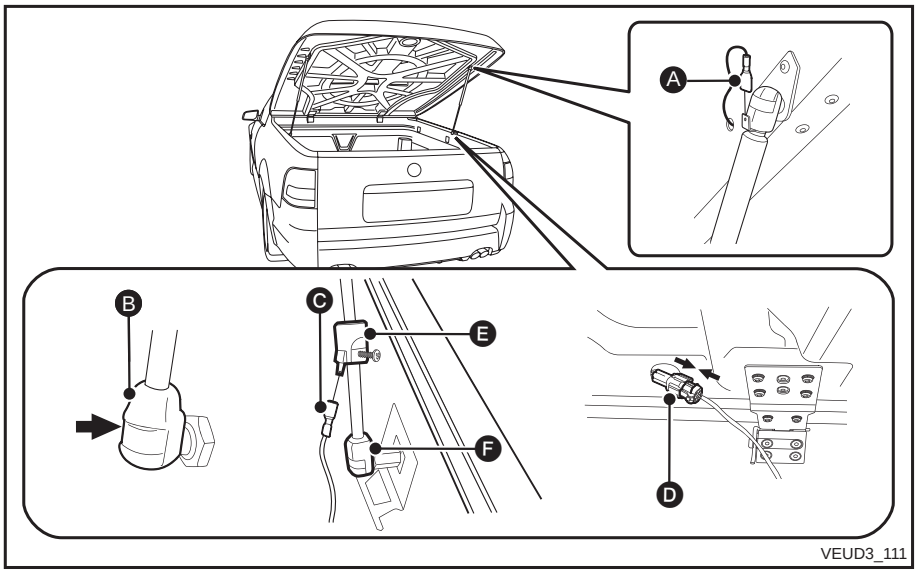
Refitting of the hard tonneau

Note Two people are required to lift and fit the tonneau cover onto the vehicle.



1. Fit the tonneau cover Ⓐ and secure with the hinge pins Ⓑ. Ensure the hinge pins click into position.

HARD TONNEAU COVER* cont.



1. Attach the gas struts Ⓑ by clipping into place. Ensure the narrow end mounts to the vehicle. Connect the wiring harness Ⓒ / Ⓐ to both terminals of the driver's side gas struts.
2. Join the two 4-way connectors Ⓓ located toward the front of the vehicle and push them behind the bedliner.

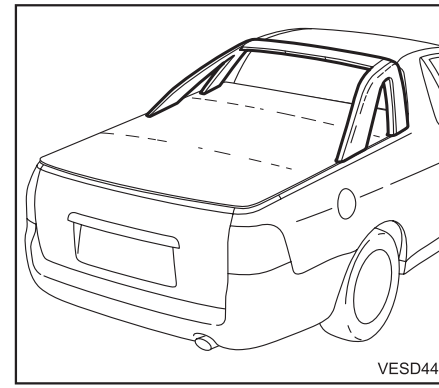
   Note Ensure that the light turns on when the tonneau cover is open and turns off when the tonneau cover is closed. If the light does not operate correctly, check the adjustment of the gas struts as follows:

   1. Loosen the screw on the driver's side gas strut terminal housing Ⓔ, until it moves up and down the strut freely.
   2. With the tailgate open, gently close the tonneau cover.
   3. Inspect the driver's side gas strut and ensure the terminal housing Ⓔ has come into contact with the gas strut's cylinder Ⓕ.
   4. Open the tonneau cover and tighten the screw on the terminal housing.

SPORTS BAR*

Sports bar

The sports bar is an appearance item only. It does not provide additional protection in an accident and should not be used as a tie down point for loads.



CHAPTER 4

Driving

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*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

SAFETY

BEFORE ENTERING THE VEHICLE

- Check that windows, mirrors and lamps are clean.
- Visually check tyre inflation.

  Note Check the tyre pressures each week.

BEFORE DRIVING OFF

1. Ensure that both doors are closed and secured.
2. Position your seat for comfortable driving.
3. Adjust rear view mirrors.
4. FASTEN SEATBELTS.
5. Check that the warning indicators illuminate when turning the key to start the engine. Refer to *Warning/reminder indications* in chapter 1A.

PARKING

1. Apply the park brake.
2. *Automatic transmission*:* Select position **P** (park).

   Manual transmission:* If pointing uphill or on flat ground, engage **1**st gear.
   If pointing downhill, engage **R** (reverse) gear.
3. Shut all windows.
4. Turn the ignition key to the LOCK position and remove the key.
5. Press the button on the key to lock both doors and to arm the alarm system when outside of the vehicle. Refer to *Locking* in chapter 2.

Note The engine fan may keep going for several minutes after the ignition has been switched off. This is normal.

WARNING

- Be careful where you park or drive. As with any vehicle, do not park or operate the vehicle in areas where combustible materials such as dry grass or leaves can come in contact with a hot exhaust system.
- Exhaust gases are hazardous, especially if they concentrate in closed rooms. Never leave the engine running in an enclosed space such as a closed garage or underground car park.

DRIVING PRECAUTIONS

RUNNING-IN

Your vehicle does not need an elaborate running-in procedure. But it will perform better in the long run if you follow these guidelines:

- Do not drive at any one constant speed, fast or slow, for the first 1000 km. Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.
- During the first 1000 km, avoid using more than moderate acceleration in lower gears and avoid vehicle speeds above 110 km/h.
- Between the first 1000 km and 5000 km, heavy acceleration in lower gears can be used. Vehicle speeds above 110 km/h should be limited to five minutes per use.
- Avoid making hard stops for the first 350 km. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.
- It is recommended that the new vehicle be driven for at least 1,500 km before towing. If the vehicle must tow before this do not exceed 80 km/h. The same applies if the vehicle is fitted with a new or reconditioned engine, transmission or rear axle.

REAR AXLE RUN-IN

If local statutory speed limits, road and traffic conditions permit driving the vehicle at its top speed, observe this additional run-in procedure.

Before driving the vehicle at its top speed for an extended time (more than approximately 5 minutes), the rear axle drive needs some preparation to settle in for maximum load. Observe the following points for the first 5,000 km:

- During the first 1,000 km, avoid using more than moderate acceleration in lower gears and avoid vehicle speeds above 110 km/h.
- Between 1,000 km and 5,000 km, heavy acceleration in lower gears may be used. Vehicle speeds over 110 km/h should be limited to 5 minutes per use.

BRAKES

The power assisted brakes fitted to the vehicle use vacuum from the engine when it is running. Therefore, never let the vehicle run down hills with the engine off, or coast after switching the engine off.

Position your seat so that you can push the brake pedal easily. Nothing should be under the brake pedal which could limit pedal travel, for instance, poorly fitting floor mats.

Continuous or heavy use will shorten the life of the brake pads.

POWER STEERING

The power steering fitted to the vehicle has been designed to reduce steering effort.

Note Take care not to hold the steering wheel fully turned when stationary (for example, when waiting before turning a corner) as this generates high operating temperatures and pressures within the system.

If power steering is not working, due to the engine stalling for example, the vehicle can still be steered. However, due to the much greater effort required to steer, it is recommended that you have the problem fixed as soon as possible.

DRIVING PRECAUTIONS cont.

LOADING THE VEHICLE

Loading the vehicle changes the mass distribution and therefore the handling when driving. After loading the vehicle, take care to become familiar with the vehicle's driving characteristics. Refer to *Loading the vehicle* in chapter 9.

LOOSE ARTICLES

Do not leave loose articles or luggage in the passenger compartment. Whenever possible, stow articles in the load compartment. Firmly secure loads stowed in the load compartment.

WARNING

Portable gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load compartment of the vehicle. It is recommended that if gas cylinders are frequently transported that a purpose-built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some countries.

MOBILE PHONES AND CB RADIOS

Mobile phones and CB radio equipment which use an integrated antenna may temporarily affect the vehicle's electronics (permanent damage is unlikely) when used inside the vehicle, due to the interference created when transmitting.

Therefore, use mobile phones and CB equipment that utilise an antenna fitted to the outside of the vehicle whenever possible.

If using mobile phones or CBs with an integrated antenna inside the vehicle, avoid using near the dashboard area, as some functions may be affected.

WATER CROSSING

Before crossing water, switch off the air conditioning.

Crossing deep water could damage the engine. It is recommended that the water depth be no more than 175 mm and speed be limited to a walking pace. Brakes may then need drying out; lightly apply the brakes while maintaining a slow forward speed, with a clear area ahead, until brake performance returns to normal.

TYRE GRIP

A decrease in tyre grip occurs when water, snow, ice, gravel or other materials are on the road. Adjust your driving to the road conditions.

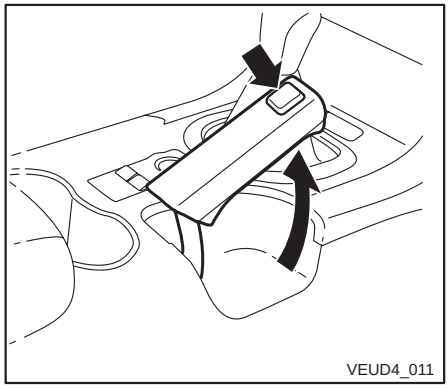
When driving on wet or slushy roads, a wedge of water may build up between the tyre and road surface. This phenomenon, known as hydroplaning, may cause partial or complete loss of grip, which affects steering and braking. To reduce the possibility of hydroplaning:

- Reduce speeds during wet conditions.
- Replace tyres when tread wear indicators are visible. Refer to *Exterior checks* in chapter 7.
- Regularly check that tyres are properly inflated.

PARK BRAKE

OPERATING THE PARK BRAKE

The park brake lever is located between the front seats.



Applying the park brake

To apply, pull the lever straight up, without pressing the release button. When the ignition is switched on and the park brake is applied, the park brake warning lamp (!) on the instrument panel illuminates.

Releasing the park brake

To release, pull the lever slightly upwards, push in the release button on the top of the lever and while pressed, lower the lever all the way down.

WARNING

Never drive the vehicle with the park brake applied.

If attempting to drive off without releasing the park brake, a warning chime sounds and the **Park Brake** animation illuminates on the centre display of the instrument panel. The animation remains illuminated until:

- the park brake is released,
- the vehicle is stationary or
- the **TRIP** button is pressed on the steering wheel.

The display then reverts to the original trip computer display.

ENGINE STARTING

1. Ensure that the park brake is firmly applied and release it only after you have started the engine and are ready to drive off.
2. *Manual transmission*:* Fully depress the clutch pedal to the floor, shift the gear lever to the Neutral position then crank the engine. The clutch pedal can now be released.

   Automatic transmission:* Move the transmission gear selector to the position **P** (park) or **N** (neutral). The engine will not start if the transmission gear selector is in any other position.
3. For cold or hot starting:

   Turn the key to the START position momentarily and then release it, as the engine starts automatically. The key automatically returns to the ON position when released.

   Note

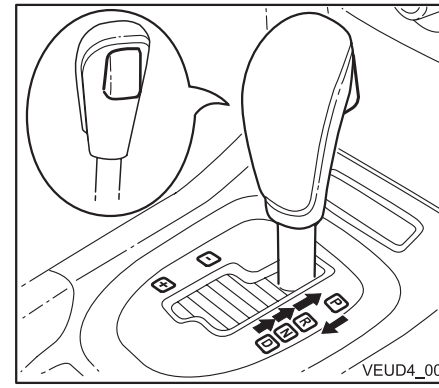
   - On manual transmission vehicles, the clutch must be fully depressed while turning the key or the vehicle cannot be started.
   - Do not depress the accelerator pedal while starting the engine. This would only increase cranking time and will not help the engine to start.
   - Do not subject the engine to high load conditions such as full throttle acceleration or high speeds until it has reached normal operating temperature (as indicated on the instrument panel temperature gauge). Failure to comply may cause premature engine wear or engine damage.

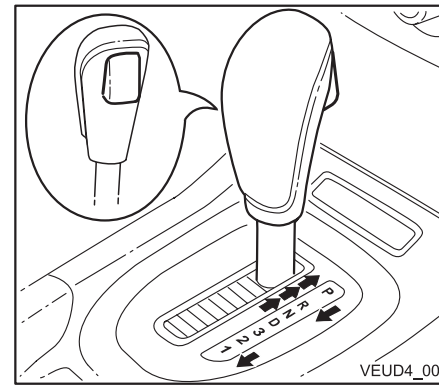
TRANSMISSION OPERATION

*AUTOMATIC TRANSMISSION**

Gear selector lever

Press the select button on the front of the transmission gear selector lever to move into any position indicated by the arrows.



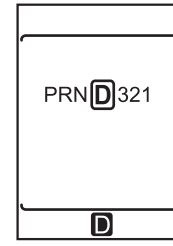


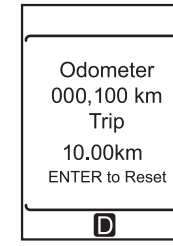
Gear display

When the position of the transmission gear selector is changed, an animation is shown on the instrument panel centre display.

The selected gear is magnified and changes according to the selector lever's movement. The gears displayed are **P R N D 3 2 1**.

The animation appears for 2 seconds after the gear is selected and then it reverts to the original trip computer display.





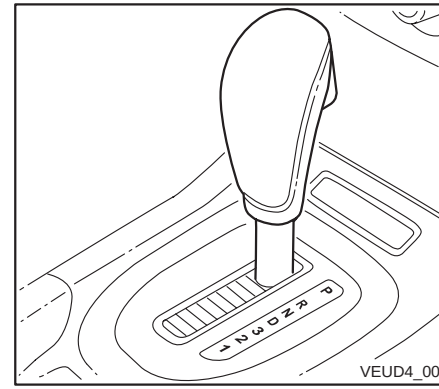
The lever position indicated on the bottom of the display remains on, indicating the gear currently selected.

Note If any warnings are active on the display, the animation will not be shown and only the indication on the bottom of the display changes when the transmission gear selector is moved.

For information about the display in A/S mode (6 speed transmission) refer to *Active Select (A/S) Mode* further on in this chapter.

TRANSMISSION OPERATION cont.

4 speed transmission* selector lever positions



Note The engine will not start unless the transmission gear selector is in position **P** (park) or **N** (neutral).

P (park) In this position, the driven (rear) wheels are locked to prevent the vehicle from moving. To park the vehicle, always select this position and apply the park brake before leaving the vehicle.

Before selecting position **P**, have the vehicle stationary and pause for a moment, to allow the transmission to adjust to the stationary vehicle.

With the selector lever in this position the engine can be started.

WARNING

- Selecting position **P** while the vehicle is still moving can cause damage to the transmission.
- Do not press the accelerator pedal with the brakes on in any gear except position **P** (park) or **N** (neutral). This will overheat the transmission.

R (reverse) The reverse gear will be engaged when selecting this position and the reverse lamps will illuminate when the ignition is switched on.

Note Make sure the vehicle is stationary before moving the selector lever to or out of position **R**.

After selecting **R**, pause for a moment before accelerating to allow the transmission to engage reverse gear.

N (neutral) This is the out-of-gear position, i.e. the transmission is disconnected from the driveline. If necessary, the vehicle can be moved without the engine running, e.g. to be towed or pushed. Refer to *Towing a disabled vehicle* in chapter 6.

With the selector lever in this position a stalled engine can be restarted while the vehicle is still moving.

WARNING

- To prevent the vehicle from moving when position **N** is selected, always apply the park brake, depress the foot brake or use suitable chocks to block the wheels.
- Do not coast the vehicle in position **N** (neutral) – this decreases your control and ability to accelerate quickly in an emergency.

TRANSMISSION OPERATION cont.

D Used for general driving. The transmission can shift between all forward gears as required. It is recommended that **D** be selected with Sport shift mode when towing on the highway at speeds over 80 km/h.

Note If on a steep downhill gradient, the transmission may not shift up from 1st to 2nd gear depending on the conditions. This will provide some engine braking to assist the driver and should not cause alarm. Normal upshifting will resume when the vehicle is on more level ground or the driver accelerates.

3 Can be selected to provide engine braking in 3rd gear. The transmission will only shift between 1st, 2nd and 3rd gears. It is recommended that **3** be selected with Sport shift mode when towing in the city at speeds under 80 km/h.

2 Can be selected to provide engine braking in 2nd gear. The transmission will only shift between 1st and 2nd gears. Do NOT select **2** at more than 120 km/h.

1 Can be selected to provide engine braking in 1st gear.

Note The transmission will electronically 'lock-out' 1st gear unless the vehicle speed is less than 55 km/h when **1** is selected. Use this position on a steep gradient, when a strong braking effect is needed.

Note It is recommended that the cruise control or Sport shift mode be used for towing (4 speed).

WARNING

Do not use the accelerator pedal to hold the vehicle stationary on an uphill slope. Use the brakes.

Warm up mode

At temperatures of approximately 5 °C or below, the transmission may shift up later than normal until the engine reaches operating temperature (approximately 5 minutes). This helps the engine to warm up quickly to improve heater performance.

TRANSMISSION OPERATION cont.

SPORT SHIFT MODE (SELECT THE ⚙ BUTTON)

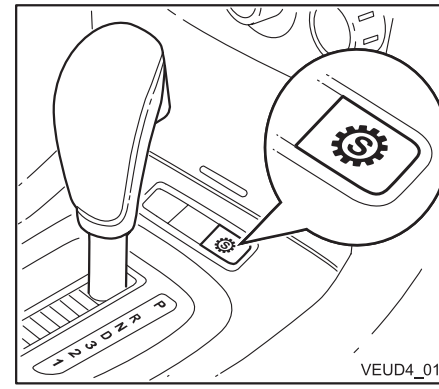
4 speed transmission

Sport shift mode can be selected where maximum engine power and transmission responsiveness is required.

When operated in Sport shift mode, the transmission will delay upshifts and allow earlier downshifts, so that lower gears/higher engine speeds are used for most driving conditions improving vehicle performance and acceleration.

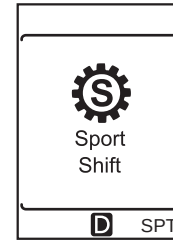
The ⚙ button is located in front of the gear selector lever. Press the ⚙ button to activate Sport shift mode. Press the ⚙ button again to return to normal shift mode.

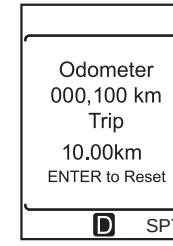
Note When the ignition is switched off then on again, sport shift mode will be deactivated and normal shift mode will be selected automatically.



The **Sport Shift** animation illuminates in the centre display when Sport shift mode is selected. After two seconds the display reverts to the previous trip computer display.

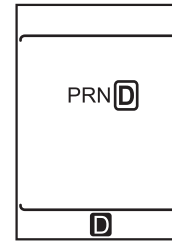
SPT is shown on the bottom of the display as long as the Sport shift mode is selected.

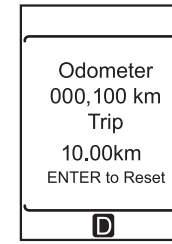




TRANSMISSION OPERATION cont.

Gear display





When the position of the transmission gear selector is changed, an animation is shown on the instrument panel centre display.

The selected gear is magnified and changes according to the selector lever's movement. The gears displayed are **P R N D**.

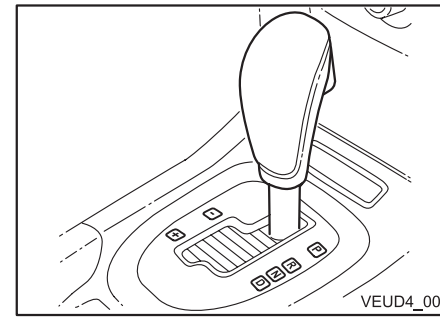
The animation appears for 2 seconds after the gear is selected and then it reverts to the original trip computer display.

The lever position indicated on the bottom of the display remains on, indicating the gear currently selected.

Note If any warnings are active on the display, the animation will not be shown and only the indication on the bottom of the display changes when the transmission gear selector is moved.

For information about the display in A/S mode (6 speed transmission) refer to *Active Select (A/S) Mode* further on in this chapter.

6 speed transmission* selector lever positions



Note The engine will not start unless the transmission gear selector is in position **P** (park) or **N** (neutral).

P (park) In this position the driven (rear) wheels are locked to prevent the vehicle from moving. To park the vehicle always select this position and apply the park brake before leaving the vehicle.

Before selecting position **P**, have the vehicle stationary and pause for a moment, to allow the transmission to adjust to the stationary vehicle.

With the selector lever in this position the engine can be started.

WARNING

- Selecting position **P** while the vehicle is still moving can cause damage to the transmission.
- Do not press the accelerator pedal with the brakes on in any gear except position **P** (park) or **N** (neutral). This will overheat the transmission.

R (reverse) The reverse gear will be engaged when selecting this position and the reverse lamps will illuminate when the ignition is switched on.

Note Make sure the vehicle is stationary before moving the selector lever to or out of position **R**.

After selecting **R**, pause for a moment before accelerating, to allow the transmission to engage the reverse gear.

TRANSMISSION OPERATION cont.

N (neutral) This is the out-of-gear position, i.e. the transmission is disconnected from the driveline. If necessary, the vehicle can be moved without the engine running, e.g. to be towed or pushed. Refer to *Towing a disabled vehicle* in chapter 6.

With the selector lever in this position a stalled engine can be restarted while the vehicle is still moving.

WARNING

- To prevent the vehicle from moving when position **N** is selected, always apply the park brake, depress the foot brake or use suitable chocks to block the wheels.
- Do not coast the vehicle in position **N** (neutral) – this decreases your control and ability to accelerate quickly in an emergency.

D (drive) This is the normal driving position. The transmission automatically selects the appropriate gear according to the current load and driving conditions.

After selecting **D** from **P** or **N**, pause for a moment before accelerating, to allow the transmission to engage the forward gear.

+/– (A/S) While in Sport shift mode, move the selector lever to the **+** or **–** position to enable Active Select (A/S) mode.

To shift up a gear, briefly pull the lever rearwards (**+**) and release it.

To shift down a gear, briefly push the lever forwards (**–**) and release it.

Refer to *Active Select (A/S) mode* further on in this chapter.

Note

- It is recommended that the cruise control or Sport shift mode be used for towing. Active select (A/S) mode may also be used under light load conditions (6 speed).
- Positive torque matching may occur with closed throttle downshifting in any shift mode. This feature uses engine torque to smooth downshifts. The driver may notice a small increase in engine speed during some downshifts.

WARNING

Do not use the accelerator pedal to hold the vehicle stationary on an uphill slope. Use the brakes.

Powertrain braking

When driving on steep descents in **D** (drive) or Sport shift mode where frequent braking is required, the transmission will downshift a gear to help hold vehicle speed and reduce brake wear. If the driver continues to press the brake, the transmission will downshift until **3** (third) gear is reached.

If the brake is released for some time, the transmission will upshift a gear. If the road levels out and the accelerator pedal is pressed, the transmission will upshift until the appropriate gear is reached.

Active Select (A/S) mode can be switched on to override the feature and gain complete control of shifts if desired.

TRANSMISSION OPERATION cont.

SPORT SHIFT MODE

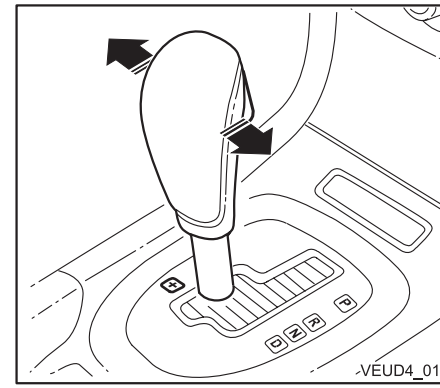
6 speed transmission

Sport shift mode can be selected where maximum engine power and transmission responsiveness is required.

When operated in Sport shift mode, the transmission will delay upshifts and allow earlier downshifts, so that lower gears/higher engine speeds are used for most driving conditions, improving vehicle performance and acceleration.

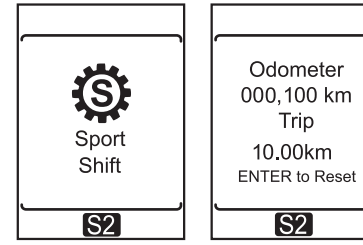
To activate Sport shift mode, move the gear selector lever to position **D**, then push the selector lever to the left quadrant to select Sport shift mode. To return to normal shift mode, move the selector lever right to the **D** position.

Note While in Sport shift mode, do not move the selector lever to **+** or **-**, otherwise Active select mode will be enabled.



The **Sport Shift** animation illuminates in the centre display when Sport shift mode is selected. After two seconds the display reverts to the previous trip computer display.

S and the currently selected gear is shown on the bottom of the display as long as the Sport shift mode is selected.



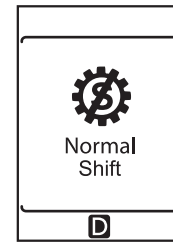
With Sport shift mode, there is a further performance feature called Performance Mode Lift Foot (PMLF). The feature is activated automatically when sports oriented driving is detected, based on cornering and on/off throttle application. PMLF allows the transmission to hold the current gear instead of upshifting when the throttle is lifted. This mode will also enable shifts to a lower gear at higher vehicle speeds and delay upshifts to a higher gear for sportier vehicle performance.

TRANSMISSION OPERATION cont.

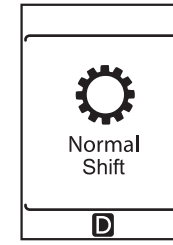
NORMAL SHIFT MODE

Normal shift mode is recommended for normal or freeway driving, as it provides optimum fuel economy. When the ignition is switched on, normal shift mode is selected automatically. When normal shift mode is selected (Sport shift mode off), the **Normal Shift** animation illuminates in the display for two seconds and the display then reverts to the original trip computer display.

Note Whenever the vehicle is restarted, normal shift mode will be selected automatically.



4 speed



6 speed

ACTIVE SELECT* (A/S) MODE

A/S mode (6 speed only) allows the driver to select gears manually, so that the vehicle can be driven in a sport oriented manner. It can also provide engine-braking by selecting the appropriate lower gear on a steep downhill grade.

To enable the Active Select (A/S) mode move the selector lever to position **D** then push the lever to the left quadrant.

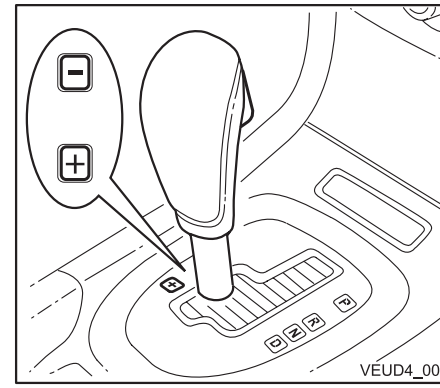
Note The selector lever must be moved to the **+** or **–** position to enable Active Select mode.

To shift up a gear, briefly pull the lever rearwards (**+**) and release it.

To shift down a gear, briefly push the lever forwards (**–**) and release it.

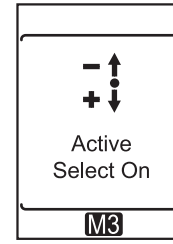
After changing the gear and releasing the selector lever it returns to it's original position in the centre of the left quadrant.

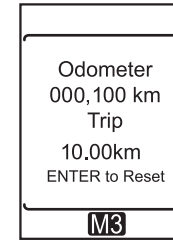
Note Do not hold the selector lever in the **+** or **–** position.



When A/S mode is enabled, the **Active Select On** animation illuminates in the centre display on the instrument panel. After 2 seconds it reverts to the original trip computer display.

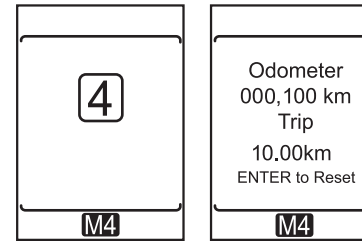
On the bottom of the display, **M** and the currently selected gear is shown as long as A/S mode is selected.





TRANSMISSION OPERATION cont.

Active Select* (A/S) mode cont.



When shifting up or down, the selected gear (**1**, **2**, **3**, **4**, **5**, or **6**) is also animated in the centre display. This gear display appears for 2 seconds after the gear is selected and then reverts to the original trip computer display.

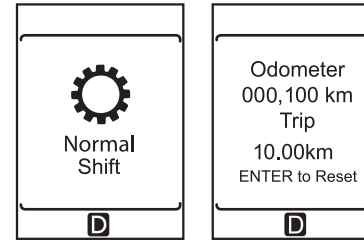
Note

- The transmission will shift to a selected gear only if the engine speed is within a suitable range. If the engine speed is not suitable, the displayed gear will not change and the message **Shift Denied** will be displayed, indicating that the transmission has not shifted gears.
- If the engine speed becomes too low for the currently selected gear, the transmission will automatically shift down, although A/S mode is still selected. This is to prevent the engine from stalling.
- While in Active Select mode, 2nd or 3rd gear starts (V8) or 2nd gear starts (V6) can be selected from a standing start. This is useful for gentle acceleration on slippery surfaces.

To disable A/S mode and return to automatic mode, push the selector lever to the right quadrant in position **D**.

When A/S mode is disabled, the **Normal Shift** animation illuminates in the centre display on the instrument panel. After 2 seconds it reverts to the original trip computer display.

On the bottom of the display the currently selected lever position illuminates again.



TRANSMISSION OPERATION cont.

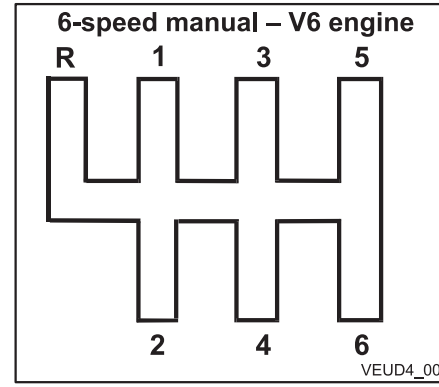
*MANUAL TRANSMISSION**

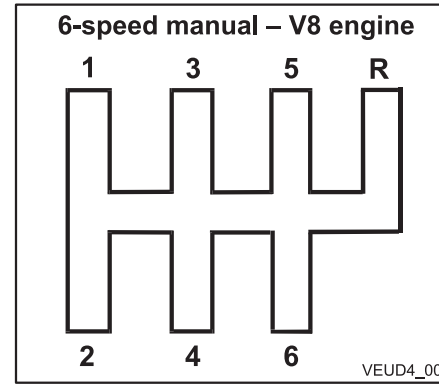
Shift patterns

The manual transmissions fitted to vehicles with V6 and V8 engines have six forward gears and a reverse gear.

The shift pattern illustrated is also found on the top of the gear shift lever.

When selecting **R** (reverse), shift the gear lever sideways against spring pressure in order to engage the gear.





Operating notes

- When shifting from one gear to another, be sure to depress the clutch pedal fully to avoid damage to the transmission.
- Never attempt to engage reverse gear while the vehicle is still moving. Ensure a slight pause between pressing the clutch pedal and moving into reverse gear to allow all the rotating components to stop. Whenever reverse gear is selected with the ignition on, the reversing lamps illuminate.
- Shift the gear lever with a moderate effort to allow time for the transmission synchromesh to work properly.
- For vehicles fitted with a 3.6L Spark Ignition Direct Injection (SIDI) V6 engine; when on level roads, in an unladen condition, it is permissible to drive off in 2nd gear, in the interest of fuel economy.
- To avoid damage to the clutch, do not drive with your foot resting on the clutch pedal.
- When stopped on an incline, do not hold the vehicle stationary by slipping the clutch. Use the park brake or foot brake.
- When climbing steep grades, change down to a lower gear before the engine starts to labour. To maintain safe speeds on a steep downgrade and to reduce brake wear and overheating, shift into a lower gear before starting the descent.
- Do not over rev the engine when shifting down to a lower gear.
- **V6** 5th gear provides direct drive, whereas 6th gear provides overdrive.
  V8 4th gear provides direct drive, whereas 5th and 6th gears provide overdrive.

ACTIVE SAFETY SYSTEMS

ANTI-LOCK BRAKE SYSTEM

Monitoring

The Anti-lock Brake System (ABS) continuously monitors the vehicle's braking system and prevents the wheels from locking up when braking. It starts to regulate the braking as soon as a wheel shows a tendency to lock. The ABS allows maximum braking effort while full steering control is retained, even in the event of panic braking.

WARNING

Do not let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style. You should always adjust the vehicle's speed to suit road and traffic conditions. Always maintain an adequate distance to the vehicle in front of you.

Operation

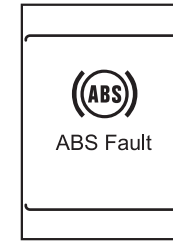
When active, ABS operation is noticeable by pulsing of the brake pedal and the noise of the regulation process. To achieve optimum braking, keep the brake pedal pressed fully throughout the braking process. Use this as a reminder to match the vehicle's speed to the road conditions, even though ABS is keeping control of the braking.

Note In an emergency braking situation, keep full force on the brake pedal without pumping it. Pumping the brake pedal can reduce brake efficiency when ABS is controlling the braking.

The (ABS) warning lamp briefly illuminates when the ABS performs a self check each time the ignition is switched on. This self-check may be audible.

If the (ABS) warning lamp (ABS off) in the instrument panel does not extinguish or illuminates when driving, a malfunction in the system has occurred. Additionally the ABS Fault animation will illuminate in the centre display.

Note The vehicle's brake system remains operational, but without ABS assistance. Have your Holden Dealer check the system as soon as possible.



The **ABS Fault** animation is displayed until the **TRIP** button on the steering wheel is pressed. However, the (ABS) warning lamp remains illuminated until the problem is rectified.

ACTIVE SAFETY SYSTEMS cont.

ELECTRONIC STABILITY PROGRAM (ESP®)

Operation

The Electronic Stability Program (ESP®) is an advanced feature that works in conjunction with the vehicle's Anti-lock Braking System (ABS) and includes the Traction Control System (TCS). When required, the ESP® improves driving stability in any driving situation.

The ESP® assists in maintaining vehicle stability by providing intervention when the vehicle's grip level is exceeded (such as a sudden lane change, slippery or unexpected road conditions). The ESP® processes information from the various vehicle sensors and can intervene by altering engine power and/or braking on specific wheels as required. This can improve the vehicle's steering control and power delivery, on wet or slippery roads, particularly on snow and ice.

WARNING

Do not let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style. The vehicle's speed should always be adjusted to suit road and traffic conditions.

Activation

When the ESP® is contributing to vehicle stability, the **ESP® Ctrl Assistance** animation is shown on the instrument panel centre display and **ESP® CTRL** illuminates at the bottom of the display.

This reminds you to match the vehicle's speed to the road conditions.

ESP® CTRL illuminates as long as the assistance is maintained. The **Stability Ctrl Assistance** animation is displayed in conjunction with **ESP® CTRL** until the **TRIP** button on the steering wheel is pressed. It then reverts to the original trip computer display.

Switching ESP® on and off

In certain circumstances, it may be helpful to disable the ESP®. For example, on steep gravel inclines, or if the vehicle is bogged, it may be possible to get more traction from a slightly spinning wheel.

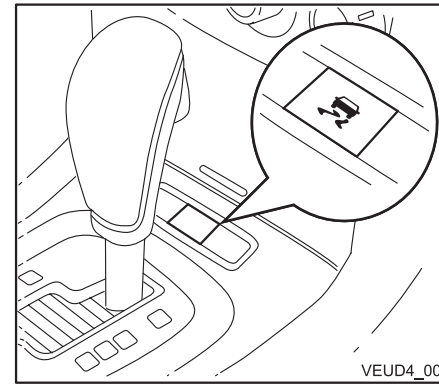
Note Whenever snow chains are fitted, the ESP® should be switched off, otherwise the ESP® might show unusual operating characteristics.

ACTIVE SAFETY SYSTEMS cont.

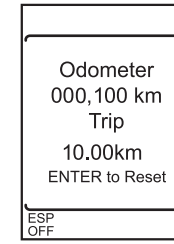
To switch the ESP® off (i.e. ESP® and TCS), press the button located in front of the transmission gear selector lever or gear shift lever, depending on the transmission fitted to your vehicle.

Press the button again to switch the ESP® back on.

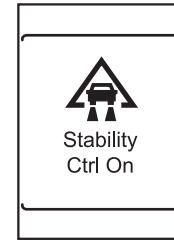
The ESP® is automatically switched on each time the ignition is switched on.

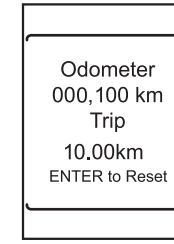


When pressing the button while the system is switched off, the **Stability Ctrl Off** animation is shown on the instrument panel centre display. After 2 seconds, the animation reverts to the original trip computer display. **ESP® OFF** illuminates at the bottom of the display as long as the ESP® is switched off.



When pressing the button while the system is switched on, **ESP® OFF** disappears and the **Stability Ctrl On** animation is shown on the instrument panel centre display. After 2 seconds, the animation reverts to the original trip computer display.





Malfunction indication

If pressing the button to switch off the system and the **Stability Ctrl Off** animation is not shown, or if the animation is shown when you did not switch off the system, a malfunction occurred and the system will not work. Contact your Holden Dealer to have the system checked.

If the **Stability Ctrl Off** animation is shown, press the **TRIP** button on the steering wheel to return to the trip computer display. **ESP® OFF** will illuminate at the bottom of the display and stay illuminated until the problem is rectified.

ACTIVE SAFETY SYSTEMS cont.

ELECTRONIC BRAKE ASSIST (EBA)

The EBA is incorporated into the ESP® system and detects an emergency braking situation. It recognises how rapidly the brake pedal is applied and automatically provides maximum braking efficiency as long as the brake pedal is depressed. Additionally, the EBA initiates ABS earlier, shortening the stopping distance required.

WARNING

Do not let this special safety feature tempt you into taking risks when driving. Traffic safety can only be achieved by adopting a responsible driving style. The vehicle's speed should always be adjusted to suit road and traffic conditions. Always maintain an adequate distance to the vehicle in front of you.

ADD ON EQUIPMENT

SNOW CHAINS

Due to lack of clearance, snow chains **cannot** be fitted to vehicles equipped with the following wheel and tyre configurations:

- 245/45R18 18 x 8
- 245/40R19 19 x 8

If these vehicles need to be driven in the snow, the owner should consider changing to the following wheel and tyre configurations:

- 225/60R16 16 x 7 (suitable for V6 vehicles only)
- 225/55R17 17 x 7 (suitable for V6 vehicles only)

Snow chains should be fitted only on the rear (drive) wheels.

Depending on design, large hub caps may contact parts of the chain. If so, remove the hub caps. Any valve extensions should also be removed.

WARNING

- Snow chains may only be used at speeds up to 50 km/h. Snow chains should only be used for short distances if the roads are not snow covered. The hard road surface causes rapid wear and the chain may break. Snow chain links should not be thicker than 13 mm and the clasp should be well away from the bodywork. Thicker chains may damage the vehicle body.
- Do not use snow chains on temporary spare wheel*.

Ensure that tyre pressures are as recommended on the tyre placard. Refer to *Tyres* in chapter 7.

Note Whenever snow chains are fitted, the ESP® should be switched off, otherwise the ESP® might show unusual operating characteristics. Refer to Electronic Stability Program (ESP®) previously in this chapter.

MUDFLAPS*

Mudflaps should be fitted if the vehicle is driven extensively on unsealed roads.

Note Take care when reversing to avoid trapping a mud flap between a tyre and a gutter.

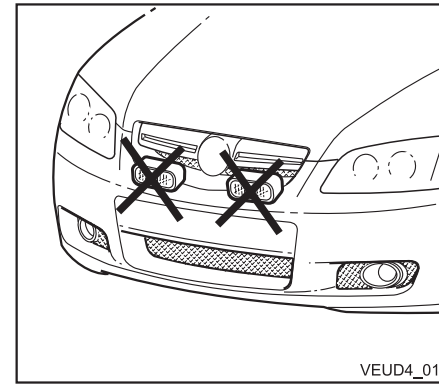
FITTING DRIVING LIGHTS OR INSECT SCREENS

When fitting these accessories, be careful not to restrict air flow otherwise engine overheating and/or poor air conditioning performance may result.

Nothing should be fitted over the upper or lower air intakes at the front of the vehicle, as this could affect engine cooling.

WARNING

In high load and high temperature applications (e.g. towing) no objects should be fitted over the upper or lower air intake at the front of the vehicle, as this could affect cooling.


VEUD4_010

ADD ON EQUIPMENT cont.

FITTING ROO/NUDGE BARS

If a roo/nudge bar is to be fitted, it is critical that the Holden approved roo/nudge bar be used. Other types ***must not*** be fitted. The Holden roo/nudge bar is available from your Holden Dealer and has been compatibility tested with the vehicle's design, including the Holden airbag system.

WARNING

Fitting other types of roo/nudge bars may affect crash performance, airbag performance and engine cooling.

Roo/nudge bars should not be fitted to vehicles operating in suburban areas, as they increase the risk of injury to a pedestrian in the event of a collision. Roo/nudge bars are only recommended for country/outback areas, where additional protection from straying animals is required. Please remember that defensive driving and limiting driving speed to the road conditions is always the best approach, particularly where road side signs indicate wildlife is abundant.

CHAPTER 5

Fuel

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Emission control 5-12

Reducing fuel consumption 5-13

*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

FUEL

EXHAUST WARNING – CARBON MONOXIDE POISONING

Exhaust gases can produce carbon monoxide, a dangerous gas, which can cause unconsciousness and even death to both humans and animals.

Gases could be inhaled if the exhaust system on your vehicle is faulty.

To protect against exhaust gases entering the vehicle, the exhaust system and body should be inspected:

- each time the vehicle is serviced,
- whenever a change is noticed in the sound of the exhaust system,
- whenever the exhaust system, underbody or rear of the vehicle is damaged.

Take the vehicle to your Holden Dealer if you think the vehicle needs inspecting for any of the above reasons.

Do not sit (or leave children or pets) in a parked vehicle for any extended period of time with the engine running. Do not run the engine in an enclosed area (such as the garage) any longer than is needed to move the vehicle.

FUEL WARNING

- Fuel is extremely flammable and highly explosive.
- Always switch off the engine of the vehicle and any mobile phones when refuelling.
- Do not smoke or allow open flames or sparks near the vehicle when refuelling.
- If fuel fumes are smelt while driving, the cause should be found and corrected without delay by your Holden Dealer.

WARNING – FUEL ADDITIVES

Various additives are used in the formulation of good quality fuel and the use of supplementary additives in fuel is not required unless specified by Holden. Under no circumstances should fuel containing the manganese additive known as MMT (methyl cyclopentadienyl manganese tricarbonyl) be used, as this additive is known to cause contamination of catalytic converters, spark plugs and the malfunction of On-Board-Diagnostic (OBD) systems. The use of fuel additives that are not recommended by Holden may affect your New Vehicle Warranty to the extent that Holden considers that the additives affect the specifications and quality of the vehicle.

FUEL cont.

WARNING – USE OF FUEL CONTAINING ETHANOL

When purchasing such fuel, we recommend that the vehicle be operated on fuel containing no more than 10% ethanol. Purchasing fuel from a reputable fuel retailer may reduce the risk of purchasing fuel with more than 10% ethanol or fuel which contains abnormal fuel properties. Under no circumstances should fuel containing more than 10% ethanol be used. Use of such fuels may result in engine malfunction, starting and operating difficulties, and materials degradation. These adverse effects could result in permanent damage to the vehicle and personal injury. It is also important to note that when ethanol blends are used, fuel consumption can be expected to increase due to the lower energy content of ethanol.

The use of any fuel, other than the fuel specified on the following page, may seriously damage the vehicle and may void the warranty. Only clean fuel of good quality should be used. The use of fuel containing more than 10% ethanol may also affect your New Vehicle Warranty to the extent that Holden considers that the fuel affects the specifications and quality of your vehicle.

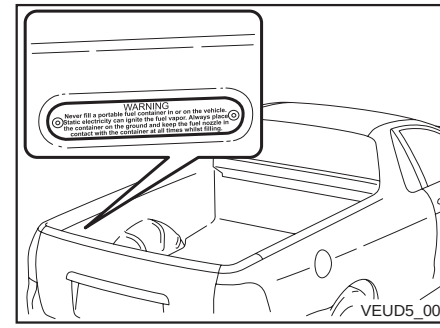
REFUELLING

Always fill the fuel tank at the intermediate or fast fill rate. Do not add any more fuel after the fuel filler first clicks off or fuel blows back – this allows room for the fuel to expand inside the tank. Only trickle-fill fuel tanks when the vehicle is to be driven for more than 50 km immediately after the tank is filled. However, this is not recommended on days over 30 °C.

Wipe off any overflowing fuel immediately from the vehicle; spray or splash with water (replace the fuel cap and close the fuel opening before spraying with water).

WARNING

Never fill a portable fuel container in or on the vehicle. Static electricity can ignite the fuel vapor. Always place the container on the ground and keep the fuel nozzle in contact with the container at all times while filling, as indicated on the warning plate on the inside of the load area.

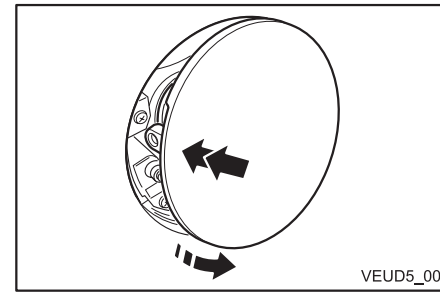

WARNING
Never fill a portable fuel container in or on the vehicle.
Static electricity can ignite the fuel vapor. Always place
the container on the ground and keep the nozzle in
contact with the container at all times whilst filling.
VEUD5_003

Fuel filler flap

When the vehicle is unlocked, push on the rear edge of the fuel filler flap located on the right hand side of the vehicle, to pop the flap open.

To close, push the flap in again.

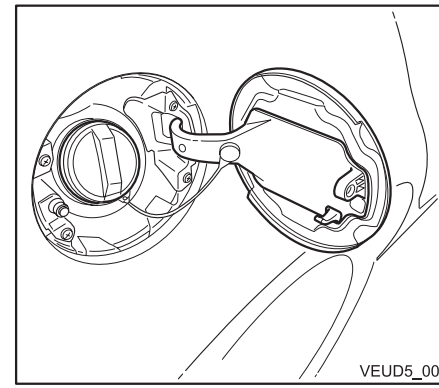
Note The fuel filler flap will not open when the vehicle is locked.



FUEL cont.

Fuel cap

The fuel cap, under the fuel flap, is a ratchet type cap that is tethered to the vehicle. To open, turn the cap anticlockwise. After refilling, tighten the cap clockwise until a clicking noise is heard and then close the fuel flap.



Tank capacity

Refer to *Specifications* in chapter 8.

Fuel type

Use unleaded petrol of regular 91 Research Octane Number (RON) rating or higher. Use of Premium unleaded petrol (95 RON or higher) may provide a small improvement in performance and fuel economy.

LPG conversion

For specific details of the approved Holden LPG system please refer to *Dual fuel LPG* further on in this chapter.

*DUAL FUEL LPG**

EMERGENCY PROCEDURES

WARNING

- LPG is heavier than air and if not dispersed tends to collect in low-lying areas.
- **Accident or fire**

  Call the emergency fire services to the scene and keep people away from the vehicle.
- **While filling**

  Ensure that there is no gas leakage. If a leak is detected while filling the vehicle stop filling the vehicle, notify the filling station operator of a potential problem with the pump. If the odour still persists when disconnected, carry out the emergency procedure steps 1 through 7 outlined below. Select petrol operation with the fuel selector switch and take the vehicle to nearest authorised IMPCO® LPG repairer or your Holden Dealer for advice.

  Note If frost is present do not touch the area until the frost has dissipated.
- **Suspected gas leak**

  Carry out the emergency procedures steps 1 through 7. Once the steps have been followed and the odour is no longer present, select petrol operation with the fuel selector switch and take the vehicle to the nearest authorised IMPCO® LPG repairer or your Holden Dealer for advice.

Manual service valve

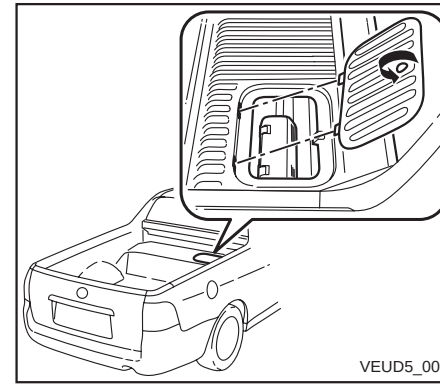
WARNING

- Do not mount any permanent fixtures over the access hatch as access must be provided at all times.
- Avoid loading cargo over the access hatch.

LPG has an odour that enables any leaks in the vehicle's LPG system to be detected. Should this odour be detected in or around the vehicle or in the event of an accident, fire or other abnormal circumstance:

1. Turn the vehicle's ignition to the OFF position.
2. Locate the LPG tank access hatch in the load area.

   Turn the knob clockwise and remove the hatch.



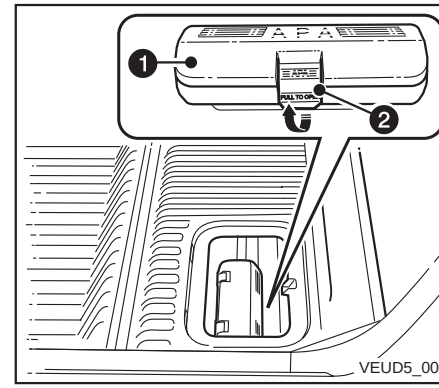
DUAL FUEL LPG cont.*

3. Open the valve box cover ❶.

   Pull the latch ❷ to the upright position.

   Lift the valve box cover up until it disengages from the tank.

   Note The valve box cover is tethered to the LPG tank.

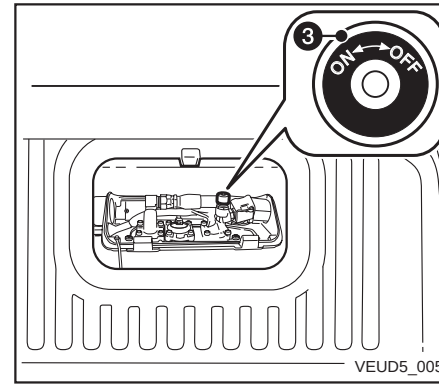


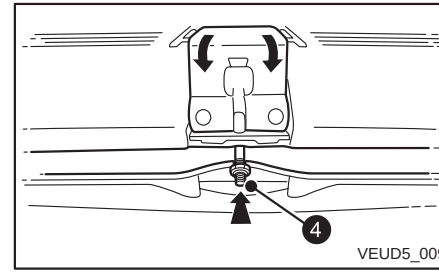
4. Turn the service valve ❸ on the LPG tank clockwise to the OFF position. Refer to the illustration.
5. Close the valve box cover.

   Engage the hinge of the valve box cover.

   With the latch ❷ in the upright position, engage the pin ❹ in the slot. Push the latch ❷ to the locked position.
6. Close the access hatch.

   Position the two tabs on the cover into the holes at the rearward edge. Push the cover into place until it latches securely.
7. Contact the nearest authorised IMPCO® LPG repairer or your Holden Dealer for advice.





DUAL FUEL LPG* cont.

DUAL FUEL (LPG) INTRODUCTION

Congratulations on purchasing a Holden 'Dual Fuel' vehicle. Not only will you appreciate the savings in fuel costs, but as importantly you will reap the benefit of a fully integrated LPG engine management system. Your Holden Dual Fuel System will maximise your vehicle's performance in both fuel modes while minimising exhaust emissions and retaining vehicle reliability and performance.

It is important to understand that the engine in your 'Dual Fuel' Holden vehicle will always start on petrol and if LPG is selected on the Dual Fuel control switch the vehicle will automatically transfer over to LPG when the engine has warmed up sufficiently.

The Holden Dual Fuel System has been designed to comply with the relevant Australian Standard AS/NZS 1425:2007.

It is recommended to advise your insurance company that your new vehicle operates on both petrol and LPG as failure to do so may invalidate your insurance policy. Your vehicle is required to display the LPG decal on both the front and rear number plates.

The information contained in this chapter is designed to cover the Holden Dual Fuel System. Information provided was accurate at the time this owner handbook was approved for printing. Holden Ltd., reserves the right, subject to all applicable laws and regulations to change specifications at any time without incurring any liability what so ever.

VEHICLE STORAGE

If the vehicle is to be stored for a prolonged period, turn the manual service valve to the OFF position, located on the LPG cylinder. Refer to *Emergency procedures* previously in this chapter.

NEW ENGINE RUN-IN PROCEDURE

It is recommended that the engine of your vehicle be run in on petrol for 500 km before running the vehicle on LPG.

STARTING THE ENGINE

There are no special requirements for starting your Dual Fuel engine with either fuel selected. Refer to *Engine starting* in chapter 4.

DUAL FUEL LPG* cont.

LPG REFUELLING

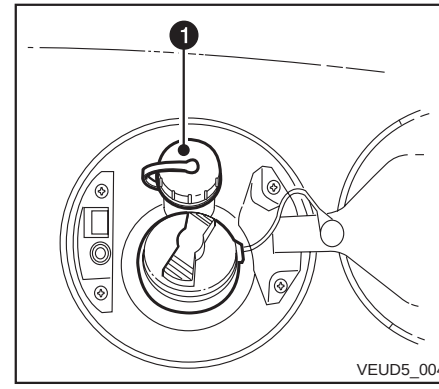
WARNING

- Observe the filling instructions and warnings displayed at the filling station.
- Ensure there are no flames or sparks in the vicinity of the vehicle.

Note LPG or petrol may be added, regardless of the fuel selected.

1. Switch off the engine.
2. Remove the LPG filler cap ❶ by turning anticlockwise.
3. Connect the LPG filler nozzle and fully squeeze and hold the trigger.
4. Release the trigger when the bowser automatically shuts off.

   Note The AFL (Automatic Fill Limiter) shuts off the LPG flow when your vehicle's LPG cylinder is 80% full: this is to allow for liquid expansion.



WARNING

Do not continue trying to add more LPG once the bowser automatically shuts off.

5. Disconnect the LPG filler nozzle.
6. Screw the LPG filler cap back on.

Tank capacity

Refer to *Specifications* in chapter 8.

DUAL FUEL LPG* cont.

FUEL SELECTION

Changing fuels and starting

The fuel selector switch is located below the heater controls on the dashboard. Fuel selection may be done at any time by simply changing the switch to the desired fuel.

Note If the vehicle has the default LPG option refer to *Default LPG operation* further on in this chapter.

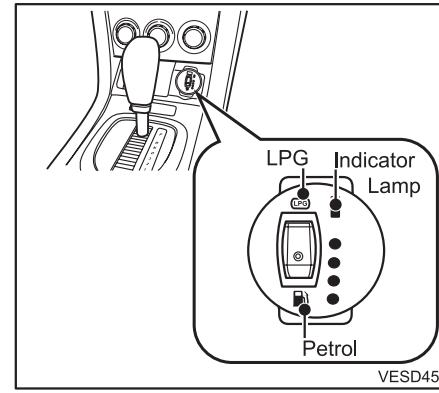
Fuel selector switch

The switch has two positions and a fuel operation indicator lamp, which will change colour to indicate which fuel mode the vehicle is currently running on. The lamp colours are as follows:

Red Petrol operation.

Amber Transition state, currently transferring between fuels.

Green LPG operation.



PETROL OPERATION

When the switch is in the 'Petrol' position, the engine will operate on unleaded petrol. The engine will start on petrol, and if switched from LPG, will automatically make the transition to petrol operation.

LPG OPERATION

When the switch is in the 'LPG' position, the engine will operate on LPG fuel. The engine will start and run on petrol until required conditions are reached, at which time the system will automatically transfer to LPG operation.

Note

- The system will not change from petrol to LPG at idle. Once the engine has reached operating temperature, the engine speed is above 1200 RPM and the switch is in the LPG position, the system will automatically transfer to LPG operation. (If these parameters are not met a beeping noise will sound).
- When switching from petrol to LPG, there is a time delay (approx. 5 seconds) to allow the LPG system to prime.
- When operating on LPG the system will automatically change back to petrol after sensing high load conditions for an extended period. The system will return back to LPG automatically when ready.
- When the system is out of LPG it will automatically change back to petrol operation. To stop the system beeping, change the fuel selection switch to petrol or refill the LPG tank.
- Holden recommends the petrol tank of your vehicle should always have at least a ¼ of a tank of petrol.

DUAL FUEL LPG* cont.

DEFAULT LPG OPERATION*

The default LPG option is available to customers as an option when purchasing the LPG system and cannot be disabled. This option encourages driving on LPG.

Switching between fuels

The default LPG fuel selector switch is spring loaded to the LPG position.

To select petrol operation:

1. Press and hold the switch in the petrol position for more than one second.
2. The indicator lamp will illuminate red.

Note

- When manually switched to petrol, the fuel selector switch will emit a repeating cycle of five short beeps. Manually switching to LPG will deactivate the beep cycle.
- If the vehicle is switched off while in the petrol mode the system will automatically set the system to LPG mode when the vehicle is next started.
- When the system is out of LPG it will automatically change back to petrol operation. To stop the system beeping, refill the LPG tank.

To select LPG operation:

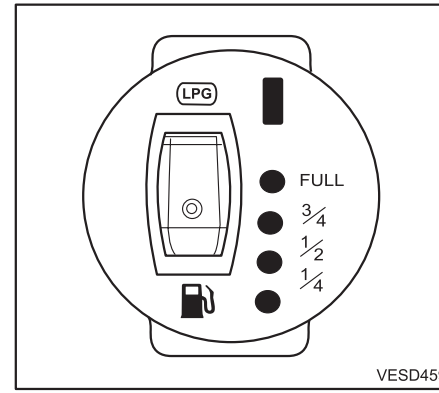
1. Press and hold the switch in the LPG position for more than one second.
2. The indicator lamp will illuminate green.

DUAL FUEL LPG* cont.

LPG FUEL GAUGE

The 4 lights in the change over switch indicate fuel level:

- Four lights illuminated — full
- Three lights illuminated — ¾
- Two lights illuminated — ½
- One light illuminated — ¼
- One light flashing — LPG reserve
- One light flashing and beeper sounding — out of LPG



Note

- If all 4 fill level lights are flashing, the LPG tank has been over filled. The lights will stop flashing once normal tank level is reached.
- When the system is out of LPG it will automatically change back to petrol operation. To stop the system beeping, change the fuel selection switch to petrol.
- For vehicles fitted with the default LPG feature, the system will continue to beep until the vehicle is refuelled with LPG.
- Check the manual service valve located on the LPG tank to ensure this is not closed. Refer to *Manual service valve* previously in this chapter.
- A few quick beeps indicates the system has automatically changed back to petrol after sensing high load conditions for an extended period. The system will return back to LPG automatically when ready.

WARNING

- Operating the vehicle with no petrol in the fuel tank may cause the vehicle to stall unrecoverably under high RPM/load conditions and possibly cause damage to the petrol fuel pump.
- If the vehicle runs out of petrol it will not start, eliminating the ability to change over to LPG operation.

EMISSION CONTROL

The vehicle is fitted with emission control systems, which are designed to reduce the amount of hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) that are emitted from the engine and fuel system into the atmosphere. Hydrocarbons and oxides of nitrogen, when exposed to sunlight under certain conditions, contribute to photochemical smog. In addition, carbon monoxide is toxic when it becomes highly concentrated in the air.

The three major emission control systems that may be fitted to the vehicle are:

1. **Evaporative emission control system**

   This system is designed to prevent the escape of fuel vapour from the fuel system and recycle the vapours through the normal combustion process.

2. **Crankcase emission control system**

   This system is designed to prevent blow-by gases from escaping into the atmosphere and recycle them through the combustion process.

3. **Exhaust emission control system**

   The various components of this system operate collectively to limit HC, CO and NOx emissions in the exhaust gas. The exhaust emission control system is comprised of components including electronic control of spark, fuel and idle speed. In addition vehicles have a catalytic converter and closed loop mixture control system.

   Note For service and repair to the vehicles fuel or emission systems contact your Holden Dealer.

OWNER RESPONSIBILITY

The engine, engine control system and exhaust system of the vehicle must NOT be modified in any way. Any change to the design may increase the emissions or otherwise defeat the intent of the regulations.

WARNING

Any person who removes, modifies or hinders any part of the emission control system may be contravening Australian Design Rules. It is also illegal to drive a vehicle modified in this way.

MAINTENANCE REQUIREMENTS

To ensure continuing compliance with the regulations, you must have the vehicle serviced at the frequency shown in the *Maintenance schedule*, in the Service/warranty booklet. Your Holden Dealer will maintain the vehicle's emission control system as per the vehicle's service manual.

It is recommended that the necessary servicing be performed by an authorised Holden Dealer who has the specialised servicing equipment and trained personnel available to ensure that the adjustments and services specified are carried out.

REDUCING FUEL CONSUMPTION

ENGINE

To keep the engine in peak mechanical condition, have it serviced regularly in accordance with the maintenance schedule. Refer to *Maintenance schedule* in the Service/warranty booklet. This ensures items such as the spark plugs, air cleaner and engine idle speed are maintained for minimum fuel usage and peak engine performance.

TRANSMISSION (MANUAL)

For vehicles fitted with a 3.6L (SIDI) direct injection V6 engine; when on level roads, in an unladen condition, it is permissible to drive off in 2nd gear, in the interest of fuel economy.

TYRE PRESSURE

Keep the tyres at the recommended pressures. Under-inflated tyres create extra rolling resistance which contributes to increased fuel consumption. Refer to *Tyres* in chapter 7.

Incorrect tyre pressures can also cause uneven and premature tyre wear.

WHEEL ALIGNMENT

Maintain correct front and rear wheel alignment. Incorrect alignment makes the wheels drag, which increases fuel consumption and causes uneven and premature tyre wear.

WARM UPS AND IDLING

Avoid long engine warm ups. They are unnecessary and waste fuel. An engine takes approximately 5 minutes to reach its efficient operating temperature and it does this most effectively when driving.

Avoid long engine idling. If you have to wait for more than a couple of minutes, switch off the engine to conserve fuel.

ACCELERATING, DRIVING AND BRAKING

Accelerate gently and avoid rapid starts. Sudden bursts of speed, full throttle acceleration and hard braking waste fuel.

Drive the vehicle at steady speeds where possible (after running-in).

Manual transmission: It is desirable to reach top gear as soon as possible, but under no circumstances should you force the engine to labour in top gear.

RIDING THE BRAKE

Do not rest your foot on the brake pedal when you do not intend to brake, as this can overheat the brakes, increase brake pad wear, damage the brakes and waste fuel.

AIR CONDITIONING

Switch off the air conditioning when not required. However, once every 2 weeks, with the engine running, switch the air conditioning on for 5 to 10 minutes to lubricate seals (even in winter).

NOTES

CHAPTER 6

Emergencies

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*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

CUSTOMER ASSISTANCE

We want you to be happy with your new vehicle, together with the people you deal with while you have the vehicle.

Normally, any problems with the sales, operation, servicing, parts/accessories or the validity of original equipment supplied with your vehicle will be handled by your Holden Dealer's Sales and Service Department.

We realise however that, with the best intentions, misunderstandings sometimes occur.

Therefore, we suggest you discuss any concern with one of the Holden Dealer's management people. If you have not received satisfaction from the Sales Manager or Service Manager – go to the General Manager or to the Dealer Principal.

By now you should have satisfaction. If not, the Holden Customer Assistance office is at your disposal.

The Holden Customer Assistance representatives can be telephoned from anywhere within Australia for only the cost of a local call. The contact number is:

1800 033 349

Naturally, telephoning is the quickest and the best way to contact. However, if you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714

Melbourne 3001

Your letter should clearly outline your concern or query, and include the following:

- Your name and address.
- Telephone numbers, both private and business.
- Servicing dealer's name and address.
- Vehicle model.
- Vehicle identification number (I.S.O.V.I.N.), refer to the inside front cover of the service booklet in your vehicle's glovebox.
- Date of purchase.
- Current odometer reading.

Most of this information will be found on the Vehicle Identification Certificate, located inside the front cover of the service booklet in your vehicle's glovebox.

Before you write however, remember that the telephone is the quicker and more efficient means of communication.

FOR NEW ZEALAND HOLDEN OWNERS

The information in this Owner's Handbook applies primarily to Australian Holden vehicles and there may be some differences to the Warranty and Owner Assistance provisions for New Zealand. Applicable details for New Zealand are set out in the Holden Warranty and Owner Assistance Information booklet enclosed in the New Zealand glovebox wallet.

New Zealand Assistance can be reached on:

0800 HOLDEN (0800 465 336)

This number provides access to New Zealand Roadside Assistance as well as New Zealand Customer Assistance.

If you prefer to write the address is:

The Manager
Holden Customer Assistance Centre
GPO Box 1714
Melbourne
Australia 3001

FLAT TYRE

WARNING

- All passengers must be out of the vehicle when it is being jacked.
- Do not jack a vehicle with a trailer attached. Remove the trailer first.
- Only jack the vehicle on hard, level surfaces.
- Ensure moving parts of the jack are adequately lubricated before use.
- Use the jack only at the designated lifting points. Use in other locations may result in the vehicle falling off the jack, or damage to the vehicle.
- If using a jack (or hoist) other than the jack supplied with the vehicle, refer to *Changing a flat tyre* further on in this chapter for the correct lifting positions.
- Do not start or run the engine while the vehicle is supported by the jack.
- Use the jack only for lifting the vehicle when changing wheels or for releasing the secondary latch system. Refer to *Spare wheel carrier troubleshooting* further on in this chapter.
- Do not get under a vehicle supported only by a jack; use vehicle support stands.
- Vehicles with alloy wheels may have a steel spare wheel fitted. Drive carefully and do not exceed 100 km/h when a combination of alloy and steel wheels are fitted on the vehicle. Although the spare tyre was fully inflated when the vehicle was new, it can lose air over time. Check the inflation pressure regularly. After installing the spare tyre on the vehicle, stop as soon as possible to check the inflation pressure is correct. Have the flat tyre repaired or replaced and installed back on the vehicle as soon as possible.

*TEMPORARY SPARE WHEEL**

WARNING

The temporary spare wheel is for temporary use only. Drive carefully and once the wheel is fitted to the vehicle do not exceed 100 km/h. Although the spare tyre was fully inflated when the vehicle was new, it can lose air over time. Check the inflation pressure regularly. After installing the spare wheel on the vehicle, stop as soon as possible to check the inflation pressure is correct. The temporary spare tyre is made for distances up to a maximum aggregate of 5,000 km. However, you should have the full size tyre repaired or replaced and installed back on the vehicle as soon as possible.

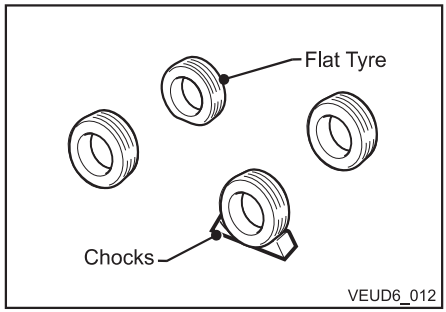
The temporary spare tyre must have a maximum load rating of at least 730 kg, or a load index of 97, and a speed category symbol of at least M.

Temporary spare wheel and tyre specification:

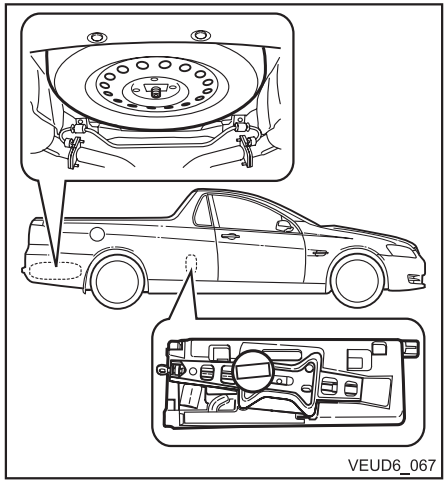
Rim size	Tyre size	Tyre inflation pressure
16 X 7	225/60R16 102H	300 kPa (44 psi)
17 X 7	225/55R17 97V	300 kPa (44 psi)

CHANGING A FLAT TYRE

1. Park on a hard, level surface, in a safe location, and set the park brake firmly. Switch the hazard warning flashers on.
2. Remove the ignition key and place manual transmissions in reverse gear or automatic transmissions in **P** (park).
3. Chock the wheel diagonally opposite the flat tyre with a suitable solid object.

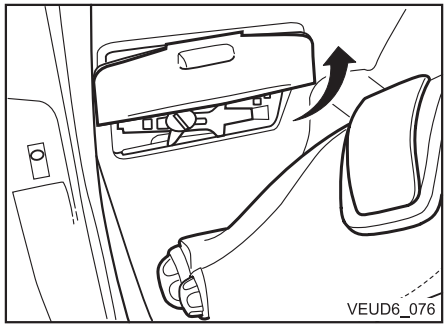


4. The jack and tools are located behind the driver's seat and the spare wheel is located under the load area.



5. To access the jack and tools, move and tilt the driver's seat forward. Lift up the access flap.

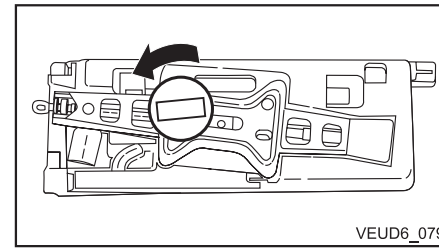
   Note Fold the sun visor up before tilting the driver's seat forward.



CHANGING A FLAT TYRE cont.

6. To remove the tool container, undo and remove the retaining nut.
7. Slide the jack package off the bolt and place next to the wheel to be changed.
8. Remove the jack handle, extension bar, wheel wrench and jack from the container.

   Note If the vehicle is fitted with nut caps, remove the nut cap tool.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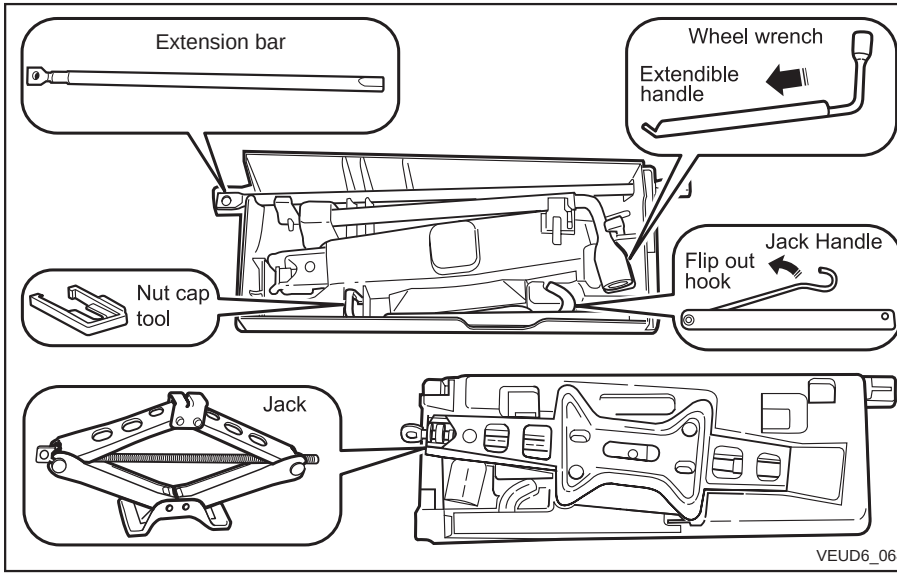
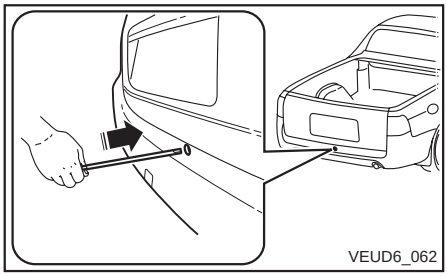


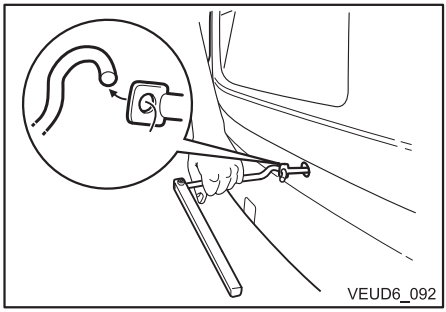
CHANGING A FLAT TYRE cont.

9. Insert the extension bar into the spare wheel lowering slot. Twist the bar back and forth to engage into the carrier.

   Note Do not lower the tailgate while the extension bar is in place.



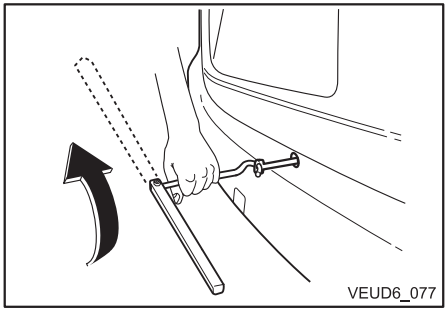
10. Attach the hook end of the jack handle to the extension bar.

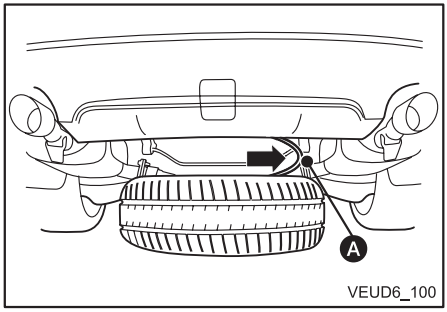


11. To lower the spare wheel wind the jack handle/extension bar anticlockwise until it stops.
12. Ensure the spare wheel carrier is completely wound down and that the securing cable Ⓐ has freeplay. Refer to the illustration at the bottom of the page.

    Note

    - The spare wheel carrier needs to be fully wound down to ensure optimum cable length is available for steps 13 to 15.
    - If the spare wheel does not lower, refer to *Spare wheel carrier troubleshooting* further on in this chapter.
    - Remove the jack handle and extension bar from the vehicle, once lowering is finished.





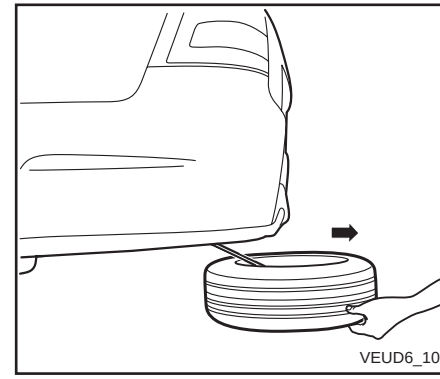
CHANGING A FLAT TYRE cont.

13. From behind the vehicle, grasp the spare wheel and pull it out towards the rear as shown.

    Note If the spare wheel cannot be manoeuvred to the position shown in step 13, repeat steps 11 and 12.

    WARNING

    Do not get under the vehicle.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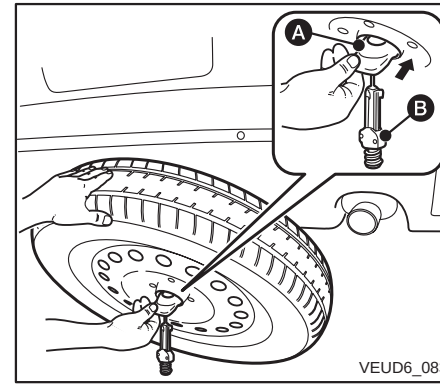
14. Hold the spare wheel up on an angle, while with the other hand slide component Ⓐ up the cable and thread it through the centre of the wheel.



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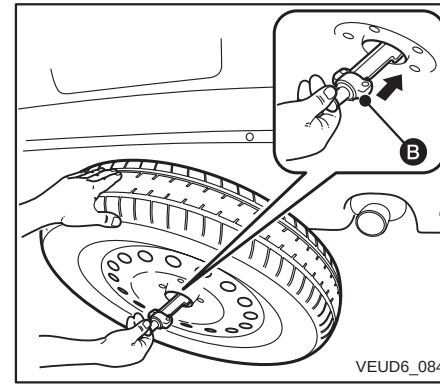
15. Thread component Ⓑ of the securing cable through the centre of the wheel.

    Place the spare wheel next to the wheel with the flat tyre.

    Note If the *Spare wheel carrier troubleshooting* procedure (further on in this chapter) was used to lower the spare wheel, the carrier assembly must be inspected and repaired by your Holden Dealer.



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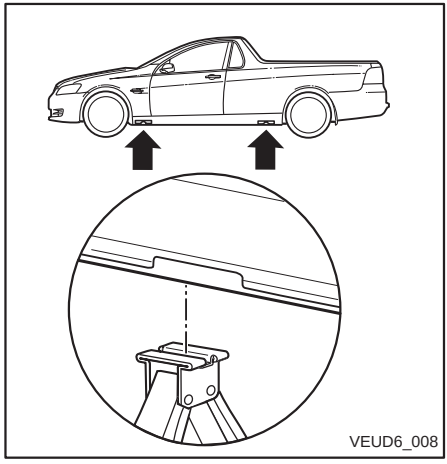
CHANGING A FLAT TYRE cont.

16. If the wheel trim covers the wheel nuts, remove as follows:
    - If a full wheel cover is fitted, lever it off with the end of the wheel wrench.
    - If a centre cap is fitted that covers the wheel nuts, remove it using the end of the wheel wrench.

      Note If the centre cap is secured using the wheel nuts, it will be removed as the wheel nuts are removed in step 26. Remember to refit it in step 29.
    - If individual wheel nut caps are fitted, remove each nut cap individually using the nut cap tool* provided. Insert the nut cap tool* into the nut cavity. Squeeze the tool to grasp the nut cap and pull outwards to remove it. Put the nut caps (together) in a dry, clean place to avoid getting dirt inside the caps.
17. Using the fully extended wheel nut wrench, loosen the wheel nuts in an anti-clockwise direction, one half to a full turn, but do not remove the wheel nuts.

    Note The wheel nut wrench must be extended before use to ensure the correct amount of torque can be applied.
18. Position the jack beneath the jack location closest to the wheel being changed. There are 4 jack locations for use with the emergency jack, identified by cutouts in the underside of the door sill. The jack must not be used in any other positions.
19. Wind the jack up by hand until it engages with the jacking point. Ensure that the jack is not tilted and the base is resting squarely on the ground.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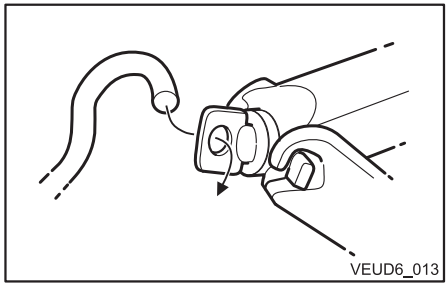
WARNING

- Failure to position the jack as described above could cause the vehicle to slip off the jack.
- Do not get under a vehicle supported only by a jack; use vehicle support stands.

20. Fit the jack handle onto the jack by sliding the hook through the loop on the end of the jack.

    Note The jack handle must be unfolded into a right angle before it is used.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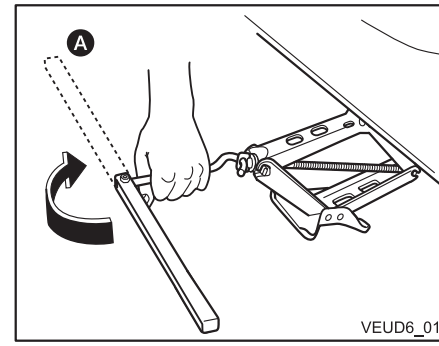
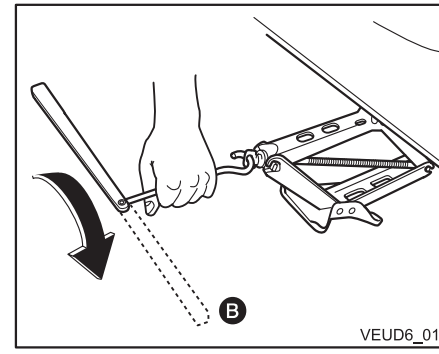
CHANGING A FLAT TYRE cont.

21. To use the jack handle, kneel down beside the vehicle to the side of the jack.
22. Grasp the hooked fold out section with one hand as shown.
23. With the other hand turn the handle through 180 degrees until it reaches position Ⓐ.



24. Turn the handle from position Ⓐ to position Ⓑ (clockwise direction).
25. Repeat steps 23 & 24 until the bottom of the flat tyre is about 5 cm above the ground.

    Note This extra 5 cm is required otherwise the inflated spare wheel will touch the ground when being fitted.
26. Remove the wheel nuts and place (together) in a dry place to avoid getting dirt in the threads.
27. Remove any dirt or rust from the wheel nuts and studs, mounting surfaces and spare wheel.



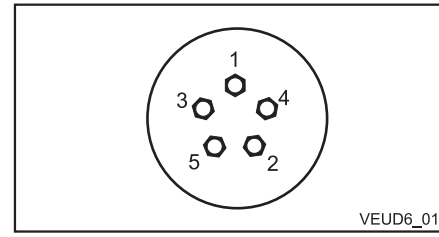
28. Exchange the wheel on the vehicle with the spare wheel.
29. Replace the wheel nuts and lightly tighten with the wheel nut wrench.

    Note Ensure the centre cap* is assembled along with the wheel nuts.
30. Lower the vehicle by reversing the jacking procedure. Remove the jack from under the vehicle.

Wheel nut tightening sequence

31. With the wheel on the ground, use the extended wheel nut wrench to fully tighten the wheel nuts in the sequence shown.

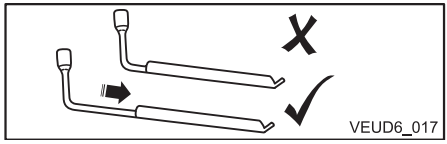
    Note Improperly tightened wheel nuts can lead to brake pulsation and disc rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. Refer further on in this chapter for the correct torque specification.



CHANGING A FLAT TYRE cont.

WARNING

To fully tighten the wheel nuts, the wrench must be fully extended.



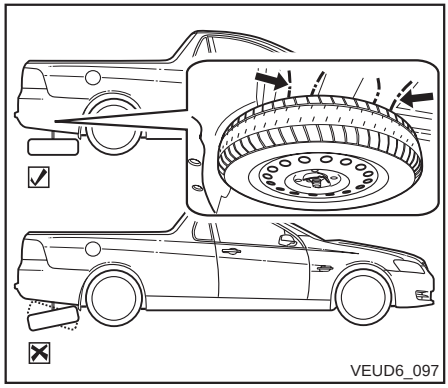
32. Replace any wheel trim or nut cap that was covering the wheel or wheel nuts.
    Note If a full wheel trim is fitted, the tyre valve must line up with the hole in the wheel trim before refitting. Ensure the wheel trim clip-in legs are correctly retained in their groove.
33. Before storing the wheel, remove any wheel cover or centre cap. Ensure the wheel is face down as shown in step 14.
    Hold the wheel up on an angle as in step 14, while with the other hand thread component Ⓑ of the securing cable through the centre of the wheel.
34. Thread component Ⓐ of the securing cable through the centre of the wheel. Allow component Ⓐ to sit over component Ⓑ and seat correctly in the centre hole of the wheel.
35. With the securing cable in position, push the wheel under the rear of the vehicle.

WARNING

Do not get under the vehicle.

Note Ensure the face of the wheel is not dragged across the ground to avoid damaging the finish.

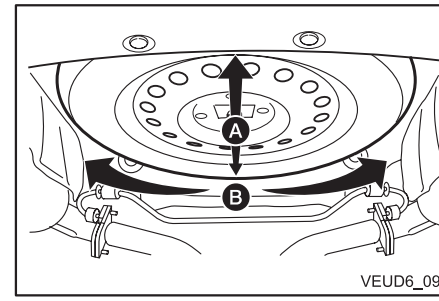
36. Insert the extension bar into the spare wheel lowering slot. Twist the bar back and forth to engage into the carrier. Attach the hook end of the jack handle to the extension bar.
37. Wind the jack handle/extension bar clockwise to raise the wheel.
38. During the raising procedure continue to ensure that the wheel is positioned centrally and horizontally on the securing cable.
39. Raise the wheel until the wheel is flush against the underbody supports, as shown. Continue turning the jack handle clockwise until you hear two clicks or feel it skip twice. This indicates that the wheel is secure and the cable is tight.
    If the wheel is not flush against the underbody supports lower the wheel and repeat from step 37 onwards.
    Note The spare wheel carrier cannot be over tightened.



CHANGING A FLAT TYRE cont.

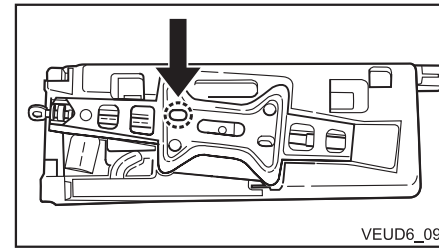
40. Make sure the wheel is stored securely. Check the security by trying to push and pull Ⓐ then try to turn Ⓑ the wheel, as shown. If the wheel moves, use the extension bar and jack handle to tighten the wheel carrier, repeating step 36 to 39.

    Note An alloy wheel with a flat tyre should always be stored under the vehicle using the spare wheel carrier. However, storing it that way for an extended period could damage the wheel. To avoid this, always store the wheel properly with the valve stem pointing down and have wheel repaired or replaced and installed back on the vehicle as soon as possible.



VEUD6_094

41. Remove the jack handle and extension bar from the lowering slot.
42. Replace the tools into the correct storage position in the vehicle as shown in steps 5 to 8. Pay particular attention to the orientation of the jack. Ensure that the jack package is positioned onto the mounting bolt through the top left corner of the jack as shown.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WARNING

- As soon as possible after changing a wheel, have the wheel nuts tightened with a torque wrench to 170 ± 20 Nm (Newton metres). Wheel nuts must be tightened evenly to the correct torque in the sequence shown (refer to step 31), as wheel nuts which have not been tightened properly could eventually allow the wheel to come off while the vehicle is moving.
- Always have the flat tyre repaired or replaced and installed back on the vehicle as soon as possible.
- The underbody mounted spare wheel needs to be stored with the valve stem pointing downwards. It's secondary latch will not work properly and the spare wheel could loosen and suddenly fall from the vehicle. If this happened when the vehicle was being driven, the wheel might contact a person or other vehicle, causing injury and, of course, damage to itself as well. Be sure the underbody mounted spare wheel is stored with its valve stem pointing downwards.

CHANGING A FLAT TYRE cont.

TROLLEY JACK OR VEHICLE HOIST

If using a trolley jack or vehicle hoist to raise the vehicle, it is important that the jack be positioned under the centre of the suspension cross member or hoist pad locations, as shown in the illustration.

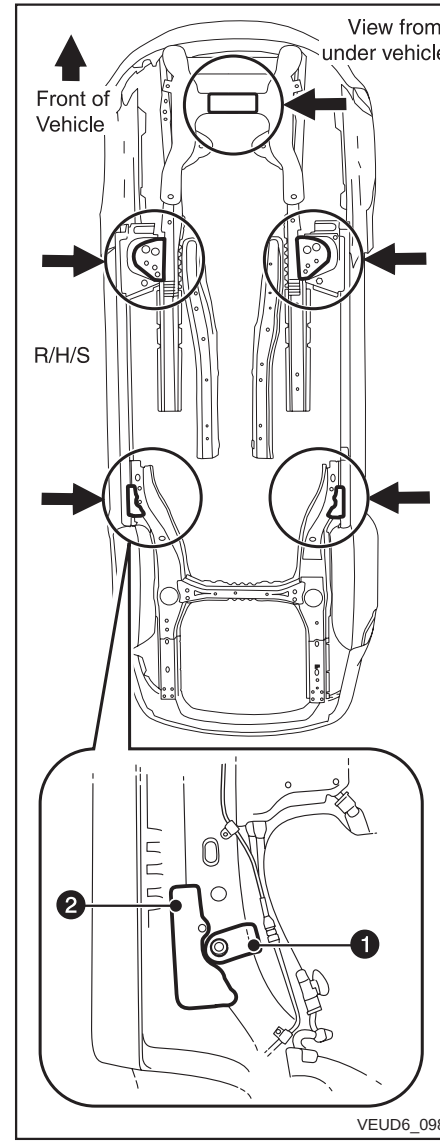
WARNING

- Do not jack under the suspension control arms.
- Always support the vehicle with jack stands in the specified location when raised.

Note Always use the jack locations shown in step 18 of the previous section when using the original jack supplied with the vehicle. This jack has been designed to correctly and safely lift the vehicle, provided the warnings are observed.

WARNING

On vehicles fitted with dual fuel LPG systems, do not allow any part of the lifting equipment to contact area ❶. Refer to the illustration. Only allow lifting equipment to contact area ❷. Refer to the illustration.



SPARE WHEEL CARRIER TROUBLESHOOTING

Secondary latch system

This vehicle has an underbody-mounted wheel carrier assembly, equipped with a secondary latch system. It is designed to stop the spare wheel from suddenly falling off the vehicle if the cable holding the spare wheel is damaged.

WARNING

- For the secondary latch to work, the tyre must be stored with the valve stem pointing down.
- Always have the flat tyre repaired or replaced and installed back on the vehicle as soon as possible.
- Before beginning this procedure read all the instructions. Failure to read and follow the instructions could damage the carrier assembly and you and others could be injured. Read and follow the instructions listed below.
- Someone standing too close during the procedure could be injured by the jack. If the spare wheel does not slide off the jack completely, make sure no one is behind you or on either side of you as you pull the jack out from the under spare wheel.

Secondary latch release procedure

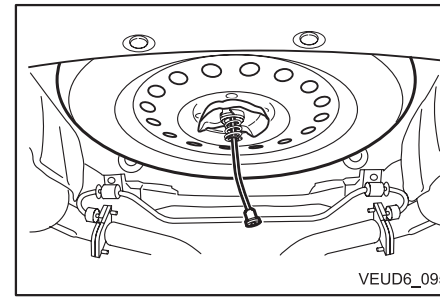
WARNING

The secondary latch release procedure should only be attempted on flat, stable, level ground.

Ensure the park brake is set firmly and at least one wheel is chocked. Refer to *Changing a flat tyre* previously in this chapter.

1. Check under the rear of the vehicle to see if the cable is visible as shown. If the cable is not visible proceed to step 5.
2. If the cable is visible, try to tighten the cable by turning the extension bar/jack handle clockwise until you here two clicks or feel it skip twice.

   Note The spare wheel carrier cannot be over tightened.
3. Try to lower the spare wheel by turning the extension bar/jack handle anticlockwise three or four turns.


VEUD6_095

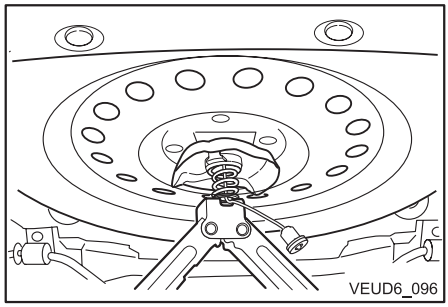
4. Repeat steps 2 and 3 at least two times.

   Note If the spare wheel lowers to the ground, go to step 11 of *Changing a flat tyre* previously in this chapter.
5. Turn the extension bar/jack handle anticlockwise until approximately 15 cm of cable is exposed.

   Note If the cable does not move or appears to be missing, proceed to step 6.

SPARE WHEEL CARRIER TROUBLESHOOTING cont.

6. Attach the jack handle to the jack and position the jack lift head under the centre of the wheel, as shown in illustration VEUD6_096.
7. Wind the jack up, by turning the jack handle clockwise, until it contacts the end of the securing cable assembly.
8. Continue raising the jack until the spare wheel stops moving upward and is held firmly in place. The secondary latch has now released and the spare wheel should now be balancing on the jack.



WARNING

Do not continue to raise the jack once the spare wheel has stopped moving as this may cause the rear of the vehicle to lift off the ground and therefore become unstable.

9. Lower the jack slowly by turning the jack handle anticlockwise. Keep lowering the jack until the wheel lowers completely to the ground or is hanging from the cable.

WARNING

While the spare wheel is lowering continue to ensure that the wheel lowers horizontally. Please be aware that in some cases the wheel may lower on an angle or detach itself from the jack lift head, if either occurs proceed with caution.

10. Disconnect the jack handle from the jack and carefully remove the jack. Use one hand to push against the spare wheel, while firmly pulling the jack out from under the spare wheel with the other hand.
11. If the spare wheel is hanging from the securing cable, go to step 11 of *Changing a flat tyre* previously in this chapter then proceed with the rest of the tyre changing instructions.

WARNING

If you drive away before the securing cable has been wound up the vehicle could be damaged.

12. Wind the extension bar/jack handle clockwise to raise the cable back up if the cable is hanging under the vehicle.

WARNING

- If any of the above spare wheel carrier troubleshooting events occur do not use the spare wheel carrier to hold a wheel until the assembly has been inspected by your Holden Dealer.

TOWING A DISABLED VEHICLE

WARNING

- Flat tray towing is the only recommended towing procedure.
- A slot and rope location is provided to move a bogged or disabled vehicle a short distance or to pull the vehicle onto a flat tray tow truck.
- Use only wheel lashings to secure the vehicle to the flat tray tow truck.
- Do not attach towing equipment to the bumpers or brackets, suspension or cross members.
- To prevent damage, use only proper towing equipment.

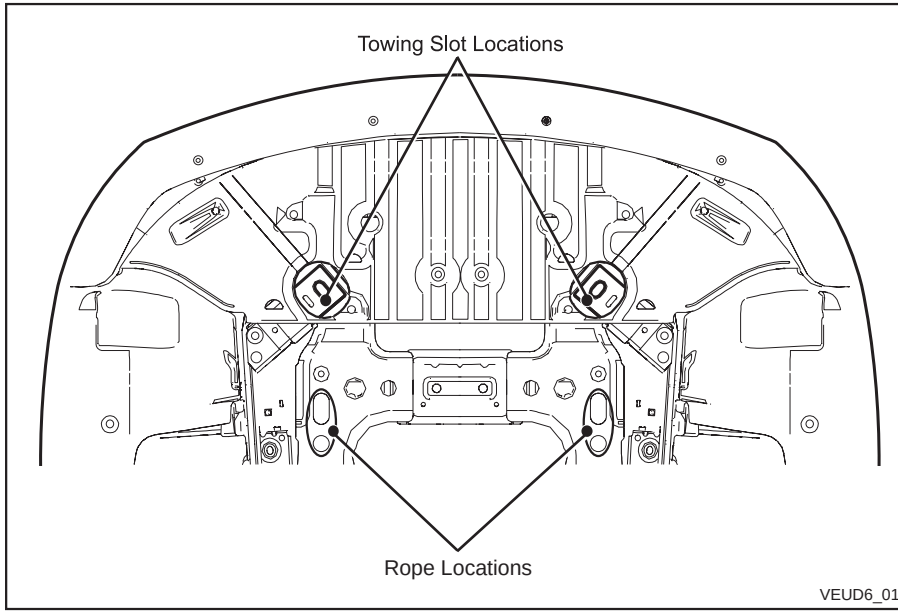
MOVEMENT OF DISABLED VEHICLES

An oval shaped slot is provided underneath the front of the vehicle.

Access to the slot is via the circular hole in the black plastic splash shield underneath the front of the vehicle.

Note

- A hook of the appropriate size, attached to the cable, should be used in the slot. A rope cannot be threaded through the slot.
- Alternatively, a rope can be looped through the holes at the rope location. Refer to the illustration below.



ENGINE OVERHEATING

WARNING

Immediate action is required if the engine overheats. This is indicated by one or more of the following:

- The temperature gauge needle moving over to the **H**.
- The animated warning **Engine Temp Hot** appearing on the central display. Refer to *Warning/reminder indications* in chapter 1A.
- Steam escaping from under the bonnet.
- A loss of power.
- A loud knocking or pinging noise.

Continued driving EVEN FOR A SHORT TIME could cause engine damage. Stop the vehicle as soon as it is safe to do so and perform the following checks.

Leave the engine idling, ensure that the park brake is applied and that manual transmissions are placed in neutral and automatic transmissions are placed in **P** (park). Exit the vehicle and audibly check that the cooling fan is working.

WARNING

- Do not open the bonnet if you can see or hear steam or coolant escaping from the engine compartment. Scalding fluid and steam can be blown out under pressure which could cause serious burns. Wait until no steam or coolant can be seen or heard before opening the bonnet.
- Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.
- Do not place hands near under bonnet components as the cooling fan may start working unexpectedly even when the engine is not running and the ignition is switched off.

If the fan is working and the temperature gauge needle has not returned to its normal position within a few minutes, STOP the engine and remove the ignition key. Look for leaks at the radiator hoses and connections, heater hoses and connections, radiator and water pump. Take care when checking these areas as they will probably still be hot. If you find a major leak or other problems that may have caused the engine to overheat, do not run the engine until these problems have been corrected.

Check the air intake area in the front bumper to ensure that it is clear of leaves and road grime. Refer to *Exterior checks* in chapter 7.

If you do not find anything wrong, you should check the engine coolant level at the coolant reservoir. Refer to *Under bonnet checks* in chapter 7.

ENGINE OVERHEATING cont.

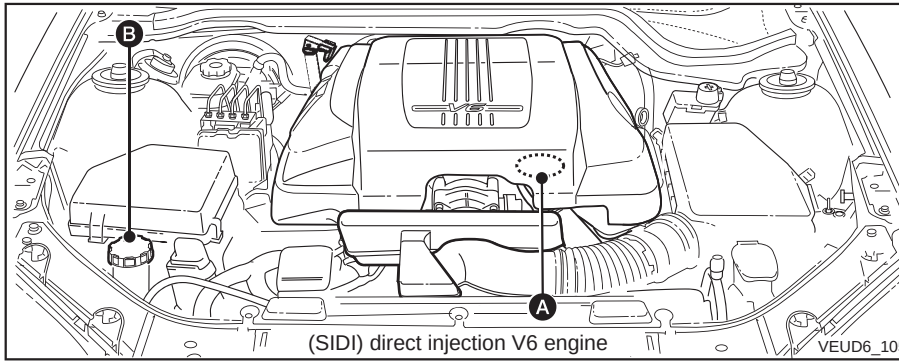
LOW COOLANT LEVEL

If the level is too low, proceed as follows:

WARNING

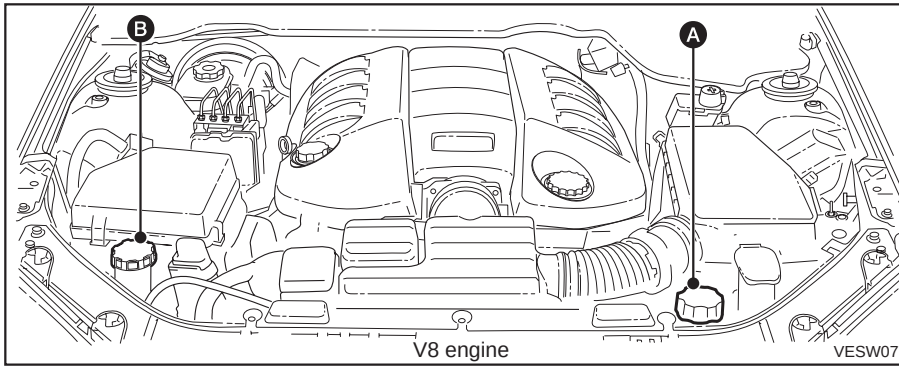
Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

When the engine has cooled sufficiently, check the coolant reservoir level and radiator level and fill as follows.



(SIDI) direct injection V6 engine VEUD6_105

Note For all V6 engine variants, the coolant reservoir locations are in similar positions within the engine compartment.



V8 engine VESW077

1. Check the coolant reservoir level Ⓑ and if required, top up with coolant of the correct concentration. Refer to *Under bonnet checks* in chapter 7.

WARNING

- Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.
- Remove the engine cover if required. Refer to *Engine cover removal* in chapter 7.

2. Locate the radiator cap Ⓐ housed on the engine (V6 engines) or at the front of the engine bay (V8 engines).

ENGINE OVERHEATING cont.

3. Cover the cap with a thick cloth and turn it slowly anticlockwise until it can be removed.

WARNING

Do not spill coolant on the vehicle's exterior surfaces as it can damage the paint work. If you do, wash it off immediately.

4. If there is no coolant or the coolant level is low, slowly fill the system through the radiator cap opening with coolant of the correct concentration (refer to *Specifications* in chapter 8) until full. Wait 30 seconds for coolant to settle and top up if the level drops.

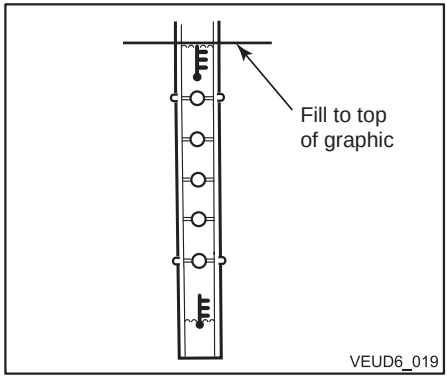
   Note

   - Take care not to spill coolant on the accessory drive belts.
   - If a spill occurs, rinse the belts immediately with fresh water.

5. Start the engine.
6. With the engine idling, top up the coolant through the radiator cap opening until full. Wait 30 seconds for the coolant to settle and top up if the level drops.
7. When the system is full of coolant, fit the radiator cap.
8. Switch off the ignition (LOCK position).
9. Check the coolant level in the reservoir and fill it until the level is at the top of the graphic on the dipstick as shown.

   Note

   - Over filling the reservoir is only required when the coolant level in the radiator is low, to allow for any air that may have been trapped, to escape.
   - The coolant reservoir will require the level to be checked for the next two days. Refer to *Under bonnet checks* in chapter 7.
   - If the coolant is low, this may indicate that a problem exists. Contact your Holden Dealer as soon as possible.



Note The engine may temporarily operate at high temperatures during demanding operating conditions, especially on hot days, including:

- climbing a long hill,
- stopping immediately after high speed driving,
- idling for long periods in traffic,
- towing a heavily laden trailer or caravan.

Avoid driving for prolonged periods in any of the above conditions if the temperature gauge shows **H**. It may help to switch off the air conditioning in these conditions.

FLAT BATTERY

JUMP STARTING

Please read the following warnings and procedure in full before attempting to jump start the vehicle.

If, after reading the following procedure, you are still unsure about 'jump starting', Holden strongly recommends for your safety and that of the vehicle that you seek the assistance of a suitably trained service technician.

WARNING

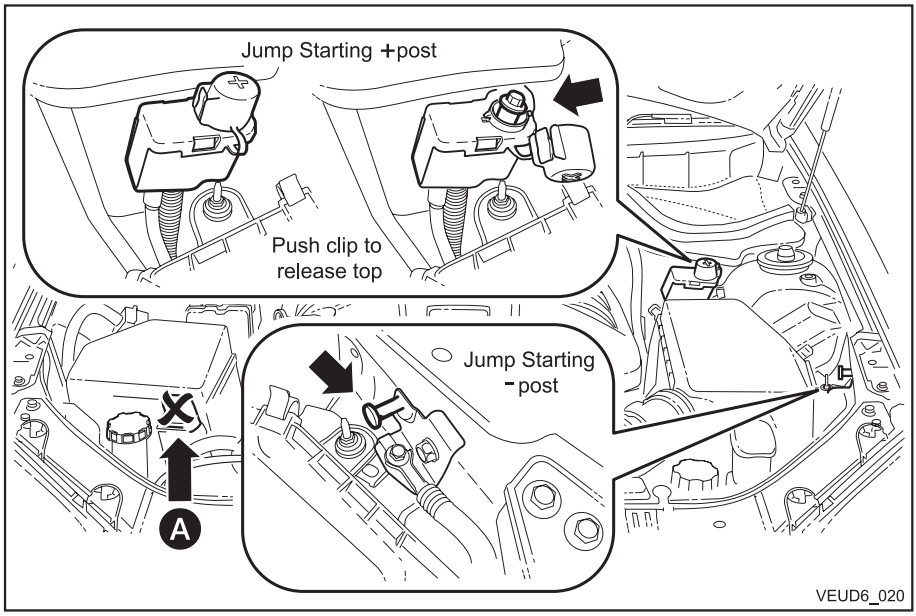
Do not push start or tow start either a manual or an automatic vehicle. If unburnt fuel were to reach the catalytic converter and ignite, the converter could overheat or be destroyed by backfire. Therefore, if the battery is flat, jump start, but do not push start the vehicle.

Batteries produce explosive gases, contain corrosive acids and supply levels of electrical current high enough to cause burns. Therefore, adhere to the following when working near a battery:

- Do not attempt jump starting directly from the battery.
- Do not let the jumper lead clamps touch each other or other metal parts.
- Do not allow the jumper leads to contact any rotating engine components.
- Do not use open flames or sparks near the battery.
- Do not smoke near the battery.
- Never use a quick charger to start the engine.
- The battery must be removed from the vehicle for recharging.
- When refitting the battery make sure the vent tube is correctly installed.
- Only use the recommended battery otherwise the electric power management system may not work correctly. Refer to your Holden Dealer for battery replacement.
- Wear eye protection such as safety glasses and avoid leaning over the battery.
- Battery acid is corrosive. If it gets on your skin, wash with plenty of water immediately. If it gets in your eyes you should not only flush with lots of water, but should also seek medical help. Battery acid also damages paint and fabrics. To minimise damage, wash it off immediately.
- Remove rings, metal watch bands and other metal jewellery before working around the battery.
- If a permanently connected hands free telephone kit is fitted to the vehicle, remove the fuse for the telephone kit before jump starting. Remember to replace the fuse afterwards.

FLAT BATTERY cont.

Jump starting connection posts



- The jump start positive and negative posts are located in the engine bay on the left-hand side of the vehicle.
- These posts are used instead of a direct connection to a battery.
- The positive jump start connection is covered by a red cap. Remove to expose the terminal.

WARNING

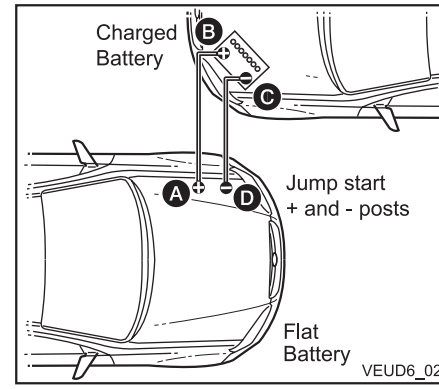
Do not make any connections at point Ⓐ as costly damage to the vehicle could result.

FLAT BATTERY cont.

Jump starting procedure

Note The battery in both vehicles must have a negative earth and a 12 volt rating.

1. Position the two vehicles so that they are NOT touching.
2. Apply the park brakes.
3. Put automatic transmissions in **P** (park) and manual transmissions in neutral.
4. Switch the ignition to LOCK and turn off all lights and accessories in both vehicles, except the hazard warning flashers or any lights needed for the work area.
5. Attach one end of the RED jumper lead to the jump start positive post Ⓐ.
6. Attach the other end of the RED jumper lead to the positive terminal Ⓑ of the charged battery.
7. Attach one end of the BLACK jumper lead to the negative terminal Ⓒ of the charged battery.
8. Attach the other end of the BLACK jumper lead to the jump start negative post Ⓓ.
9. Start the engine in the vehicle with the charged battery and run the engine at idle speed for at least 4 minutes.
10. Start the engine of the vehicle with the flat battery.



11. Turn off the headlamps, rear demister, air conditioning and audio system of the vehicle with the flat battery.
12. Allow both cars to run for at least 4 minutes still connected, to stabilise battery voltage.
13. Leave the engines running while removing the BLACK negative jumper lead first, followed by the RED positive jumper lead.

    Note

    - Ensure that the red protective cap is refitted to the positive jump start post following removal of the jump leads.
    - While removing each clamp, take care that it does not touch any other metal while the other end remains attached.

FUSE REPLACEMENT

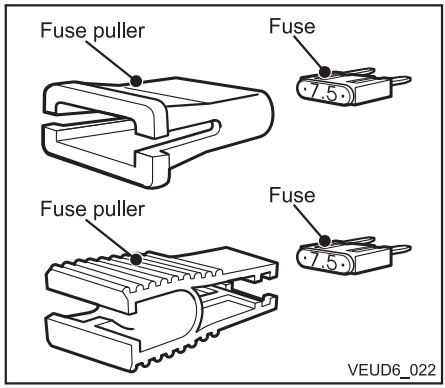
WARNING

Switch off the ignition (LOCK position) and any electrical equipment before changing a fuse.

A fuse puller is provided in the cabin and engine compartment fuse panels, which can be used on each of the 3 fuse panels.

Spare fuses of various ratings are provided in the cabin and engine compartment fuse/relay boxes.

Always replace a blown fuse with one of the same amperage. The amperage is shown on the fuse's head:



Colour	Rating (amps)
Grey	2
Brown	7.5
Red	10
Blue	15
Yellow	20
Natural	25
Green	30

Note If a fuse blows, this indicates a fault. The cause should be promptly located and fixed.

Make sure that each fuse cover is securely in place after use.

WARNING

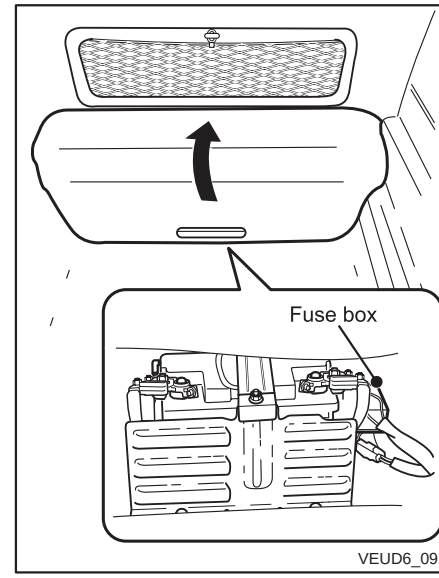
- When replacing a fuse be sure to use a fuse of the specified amperage.
- Never install a wire or similar as it could damage electrical components and cause a fire.
- Any improper alterations to the electrical system may cause a fire hazard and engine damage. To maintain your own safety and that of the vehicle, have any work involving the electrical system or the replacement of high current fuses or relays carried out by your Holden Dealer.

FUSE REPLACEMENT cont.

BATTERY FUSES AND RELAYS

The fuse panel is located behind the passenger's seat to the side of the battery.

Lift up the access flap to locate the fuse panel.



FUSE REPLACEMENT cont.

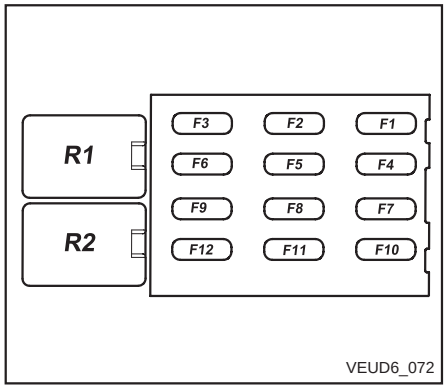
Battery fuse and relay index

Fuses:

F1 - REAR SEAT ENTERTAINMENT.....(10A)
F2 - AMPLIFIER .....(30A)
F3 - NAVIGATION/ TELEMATICS/PHONE.....(10A)
F4 - RADIO & INFOTAINMENT ..(15A)
F5 - INST/DISP/RFA/DLC .....(10A)
F6 - SPARE
F7 - TRAILER.....(30A)
F8 - SPARE
F9 - SPARE
F10 - ECM BATT .....(15A)
F11 - RVC SENSE .....(7.5A)
F12 - FUEL PUMP.....(20A)

Relays:

R1 - SPARE
R2 - SPARE

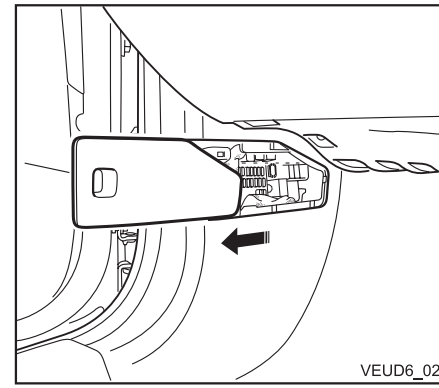


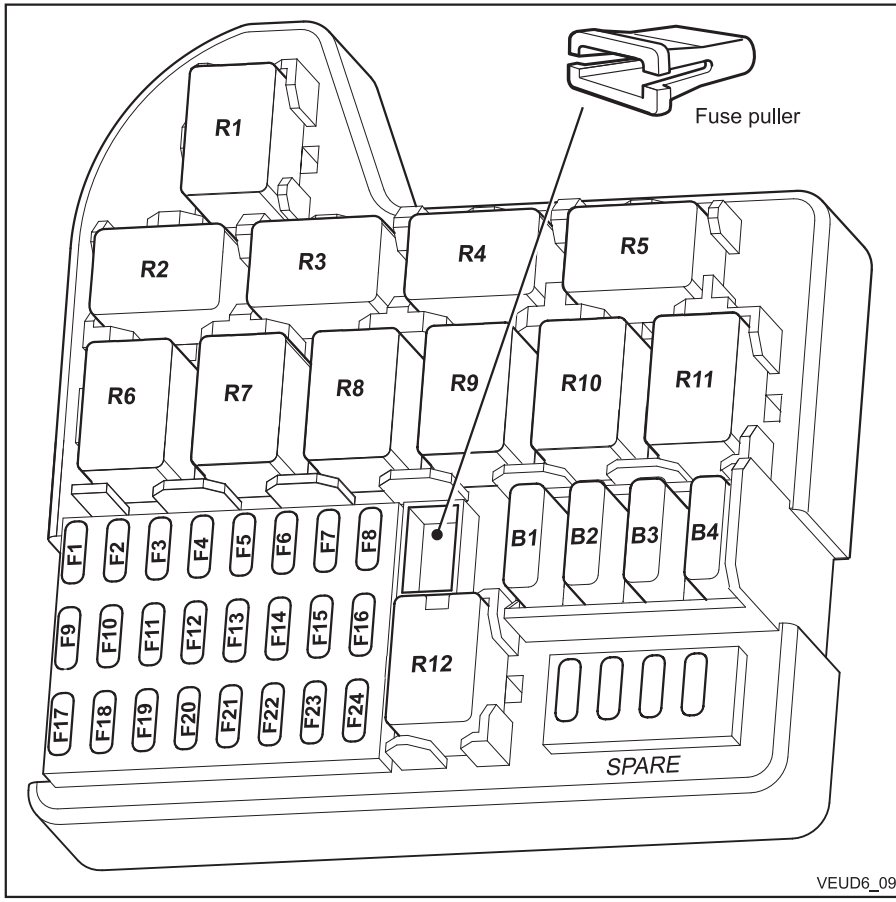
FUSE REPLACEMENT cont.

CABIN FUSES AND RELAYS

The fuse panel is located in the left hand side kick panel.

Use the slot in the fuse panel cover and slide rearwards to reveal the fuse panel.





FUSE REPLACEMENT cont.

Cabin fuse and relay index

Circuit breakers:

B1 - WINDOW BATTERY .....(20A)
B2 - POWER WINDOWS .....(20A)
B3 - POWER SEATS .....(20A)
B4 - SPARE

Fuses:

F1 - SIR (SRS) .....(10A)
F2 - REAR END RELEASE/
SEDAN.....(10A)
WAGON .....(30A)
F3 - DOOR LOCKS .....(25A)
F4 - INADVERT POWER/
LED DIM.....(15A)
F5 - COURTESY LIGHTS/RT
FT TURN SIGNAL.....(15A)
F6 - TURN SIGNAL RIGHT,
SIDE AND REAR .....(15A)
F7 - SPARE
F8 - TURN SIGNALS
LEFT-LAMPS .....(15A)
F9 - BCM LOGIC.....(10A)
F10 - STOP LAMPS/
PARK ASSIST .....(15A)
F11 - CONSOLE LIGHTING.....(15A)
F12 - IGN SW/THEFT .....(2A)
F13 - CIGAR LIGHTER* .....(20A)
F14 - FRONT APO (AUXILIARY
POWER OUTLET) .....(20A)
F15 - OUTSIDE MIRROR/RPA
OPTION .....(2A)
F16 - PHONE/KEY LK/ISRVM/
RAIN SENSOR .....(10A)
F17 - SUNROOF .....(20A)
F18 - REAR WIPER .....(20A)
F19 - SPARE
F20 - SPARE
F21 - SPARE
F22 - SPARE
F23 - STRG WHEEL
ILLUMINATION .....(2A)
F24 - RAP CONTROL PWR WDO...(2A)

Relays:

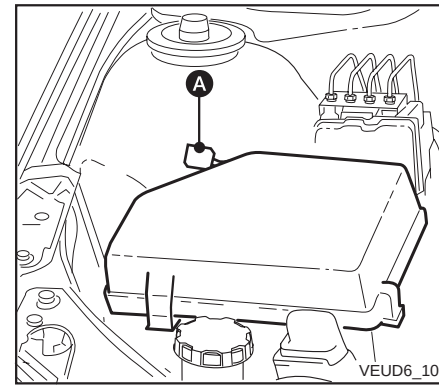
R1 - RAP-RETAIN ACCESSORY
POWER RELAY
R2 - ALL DOOR LOCK RELAY
R3 - PAS DOOR UNLOCK RELAY
R4 - SPARE
R5 - REAR END RELEASE
R6 - DRIVERS DOOR
UNLOCK RELAY
R7 - SPARE
R8 - ACCESSORY POWER RELAY
R9 - SPARE
R10 - SPARE
R11 - SPARE
R12 - FUEL PUMP RELAY
(LY7/L76/L98/LS3 ONLY)

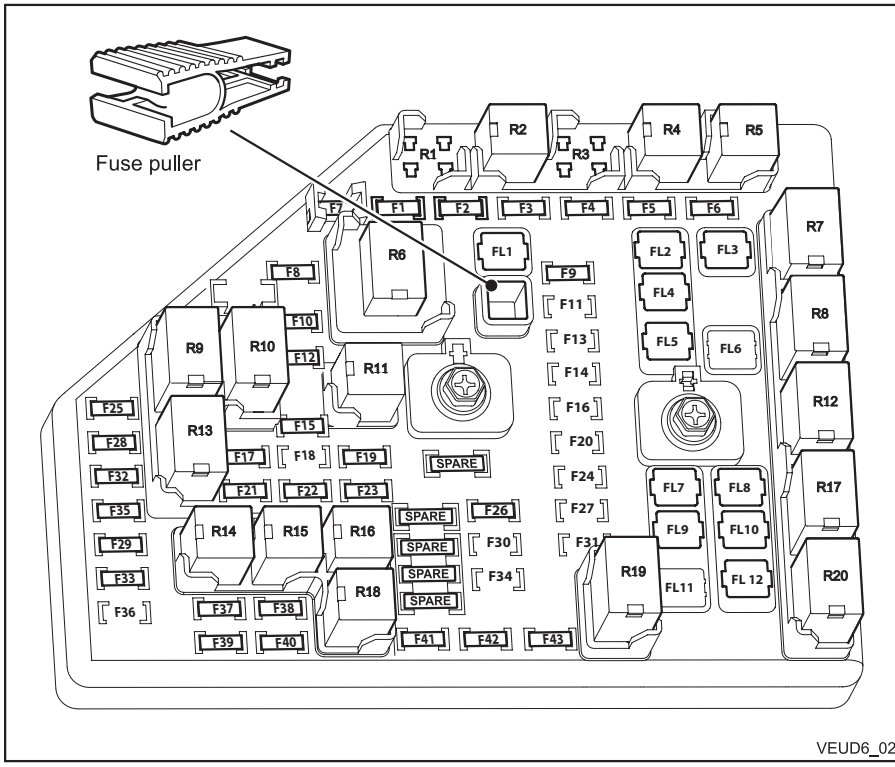
FUSE REPLACEMENT cont.

ENGINE COMPARTMENT FUSES AND RELAYS

This is the main fuse/relay box. Remove the clip-on cover to gain access.

Ⓐ Vacuum pump relay (R21).





FUSE REPLACEMENT cont.

Engine compartment fuse and relay index

Fuses:

FL1 - BRAKE VACUUM PUMP ....(20A)
FL2 - REAR DEFOG .....(40A)
FL3 - ABS MOTOR.....(40A)
FL4 - BATT MAIN 3 .....(50A)
FL5 - BATT MAIN 1 .....(50A)
FL6 - SPARE
FL7 - BATT MAIN 2 .....(50A)
FL8 - STARTER.....(40A)
FL9 - HVAC BLOWER MOTOR....(40A)
FL10 - FAN 1 ENGINE COOLING (RIGHT).....(30A)
FL11 - SPARE
FL12 - FAN 2 ENGINE COOLING (LEFT) .....(30A)
F1 - COMM ENABLE.....(10A)
F2 - HVAC BATT.....(10A)
F3 - BACK UP LAMP.....(15A)
F4 - FOG LAMPS (FRONT) .....(15A)
F5 - ABS VALVES.....(25A)
F6 - SPARE
F7 - HEADLAMP WASH.....(30A)
F8 - HORN.....(15A)
F9 - TCM .....(15A)
F10 - LEFT LOW BEAM (BASE/HID).....(10/20A)
F11 - SPARE
F12 - RIGHT LOW BEAM (BASE/HID).....(10/20A)
F13 - SPARE
F14 - SPARE
F15 - FRONT WIPER .....(30A)
F16 - SPARE
F17 - HORN THEFT .....(10A)
F18 - SPARE
F19 - RIGHT HIGH BEAM.....(10A)
F20 - SPARE
F21 - FRONT WASHER (WSW)...(15A)
F22 - SPARE
F23 - LEFT HI BEAM.....(10A)
F24 - SPARE
F25 - REVERSE LOCKOUT/ TOSS .....(15A)
F26 - REAL TIME DAMPING.....(25A)
F27 - SPARE
F28 - ECM 1 (LY7/L76/L98/LS3)/ ODD COILS/INJECTORS (LF1/LLT).....(15A)
F29 - EVEN COILS/ INJECTORS.....(20A)
F30 - SPARE
F31 - SPARE
F32 - EMISSION 2.....(15A)
F33 - EMISSION 1.....(15A)
F34 - SPARE
F35 - ODD COILS/INJECTORS (LY7/L76/L98/LS3)/ ECM 1 (LF1/LLT).....(15A)
F36 - SPARE
F37 - SPARE
F38 - IGNITION/MISC .....(10A)
F39 - IGNITION ENGINE/FSCM ..(15A)
F40 - AIRBAGS .....(10A)
F41 - SPARE
F42 - RIGHT PARK LAMP.....(10A)
F43 - LEFT PARK LAMP .....(10A)

Relays:

R1 - SPARE
R2 - COMM ENABLE RELAY
R3 - SPARE
R4 - BACK UP LAMPS RELAY
R5 - FOG LAMP RELAY-FRONT
R6 - HEADLAMP-LO BEAM RELAY
R7 - HEADLAMP WASH RELAY
R8 - RR-DEFOG RELAY
R9 - FRONT WIPER HIGH RELAY
R10 - FRONT WIPER LOW RELAY
R11 - HEADLAMP-HI BEAM RELAY
R12 - CRANK RELAY
R13 - POWER TRAIN RELAY
R14 - IGNITION RELAY
R15 - FRONT WASH RELAY
R16 - HORN RELAY
R17 - FAN 1 RELAY (ENGINE COOLING)
R18 - PARK LAMPS RELAY
R19 - FAN 2 RELAY (ENGINE COOLING)
R20 - FAN 3 RELAY (ENGINE COOLING)
R21 - VACUUM PUMP RELAY

BULB REPLACEMENT

Note If unsure of the bulb replacement process for any of the lamps, please have the work carried out by a suitably trained service technician.

NOTES WHEN REPLACING BULBS

- Switch the ignition off (LOCK position) and remove the key.
- Switch off the related switch.
- It is important to fit only bulbs of the specified wattage.
- Do not touch bulbs or reflectors with bare hands. Greasy fingers cause stains which evaporate, eventually resulting in a dull reflector. Grease spots on Halogen bulbs will, within a short time, lead to bulb failure. Clean stained bulbs with methylated spirits.

BULBS TO BE CHANGED BY A HOLDEN DEALER

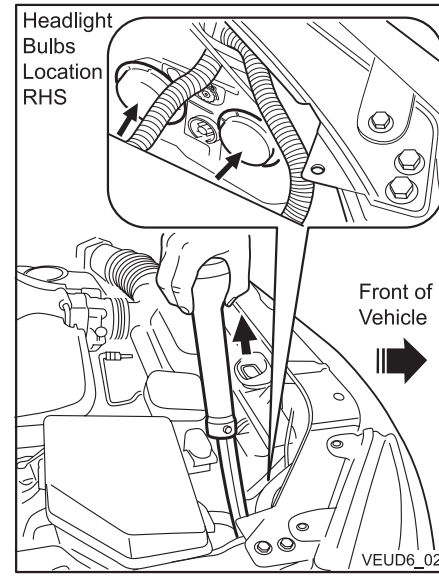
- Fog lamps*.
- Instrument panel lamps.
- Rear high level stop lamp*.
- Interior dome lamps.
- Load area illumination lamp*.

FRONT LAMPS

To gain access to the front park bulbs, front turn signal bulbs, high and low beam bulbs:

1. Pull up on the coolant bottle filler neck to remove it and place it to one side. Let the filler neck drain before pulling it all the way out.

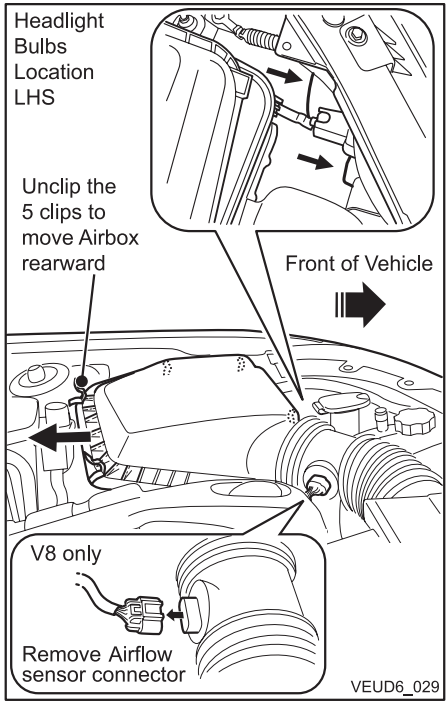
   Note Place a clean rag over the opening of the coolant bottle after removing the filler neck.



BULB REPLACEMENT cont.

2. Unclip the air filter box cover and move rearward. Disconnect the air flow meter connector (V8 only).

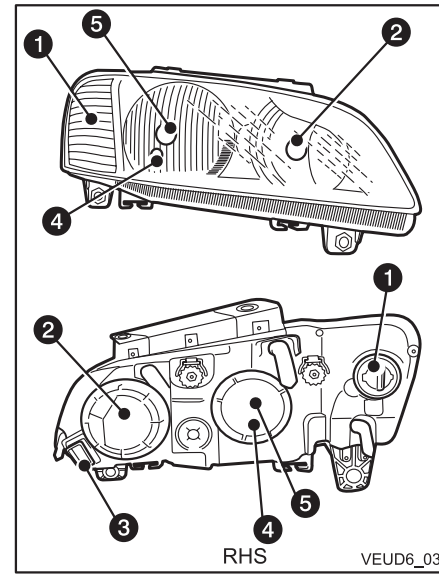
   Note When refitting the air filter box cover, ensure that the air filter element and cover are seated correctly.



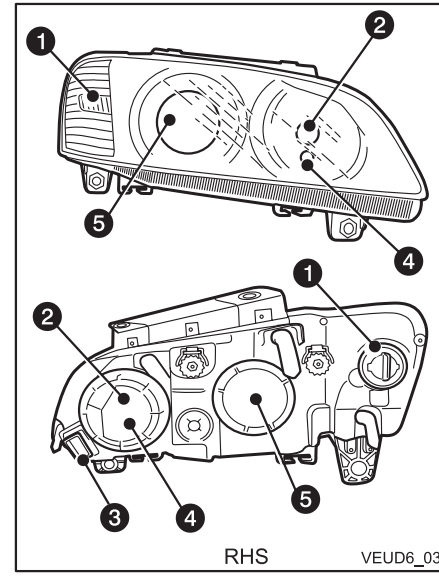
BULB REPLACEMENT cont.

Front lamp assembly

❶ Front turn signal lamp (PY21W amber bulb).
❷ Headlamp inboard high beam (H9 bulb, 65W).
❸ Headlamp wiring connector.
❹ Park lamps (W5W bulb).
❺ Headlamp outboard low beam (H7 bulb, 55W).



Note Depending on the model variant, the park lamp bulb ❹ is in either of the two positions shown.



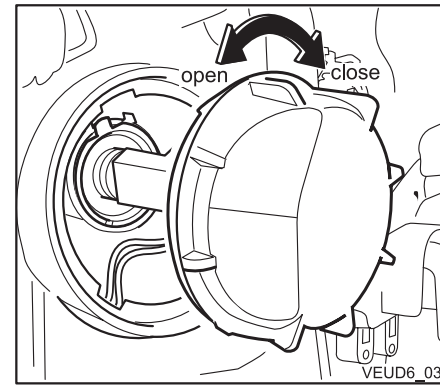
BULB REPLACEMENT cont.

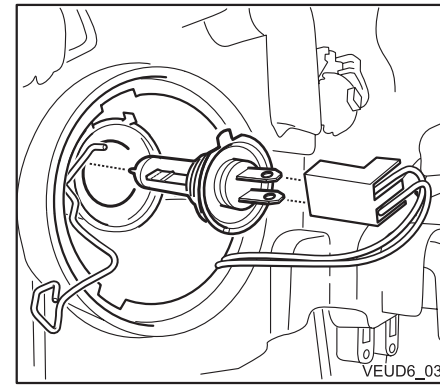
Headlamps – outboard low beam

1. Follow the steps described in section *Front lamps* previously in this chapter, to gain access to the lamp assembly.
2. Turn the outboard dust cap anti-clockwise and remove.

   Note Take care not to drop the dust cap into the engine compartment.
3. Pull to remove the wiring harness connector from the rear of the bulb.
4. Press and unclip the bulb spring retainer and pivot clear of the bulb.

   Note Check the orientation of the bulb tang for replacement.
5. Remove the bulb from the headlamp.
6. Fit the new bulb into the headlamp ensuring the tang is located correctly.
7. Refit the bulb spring retainer into its original position.
8. Install the wiring harness connector and dust cap (ensuring the rubber seal is in place).
9. Install components removed in step 1. Refer to *Front lamps* previously in this chapter.
10. Check lamp operation.





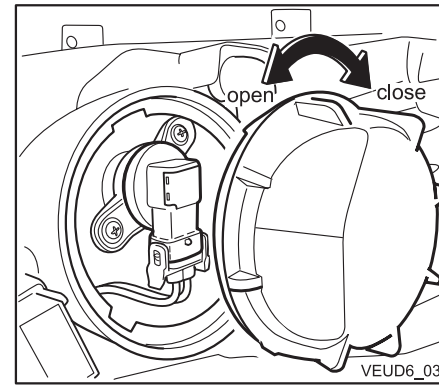
BULB REPLACEMENT cont.

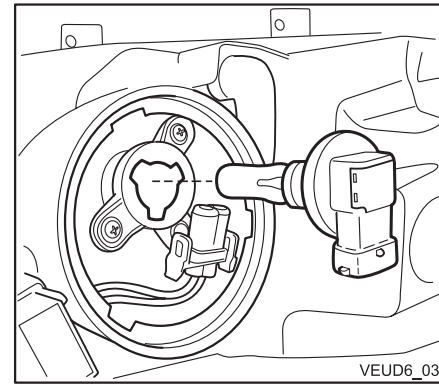
Headlamps – inboard high beam

1. Follow the steps described in section *Front lamps* previously in this chapter to gain access to the lamp assembly.
2. Turn the inboard dust cap anti-clockwise and remove.

   Note Take care not to drop the dust cap into the engine compartment.
3. Remove the wiring harness connector by squeezing the two tangs on the harness connector and pulling the connector downwards.
4. Twist the bulb anticlockwise to remove.

   Note The different sized locating tangs on the bulb base allow the bulb to sit correctly into the headlamp in one position only.
5. Twist the bulb clockwise to install.
6. Install the wiring harness connector and dust cap (ensuring the rubber seal is in place).
7. Install components removed in step 1. Refer to *Front lamps* previously in this chapter.
8. Check lamp operation.



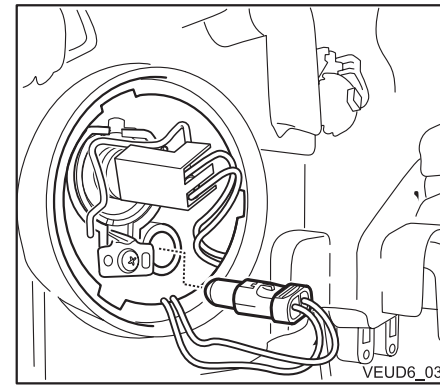


BULB REPLACEMENT cont.

Front park lamps*

1. Follow the steps described in section *Front lamps* previously in this chapter to gain access to the lamp assembly.
2. Remove the outboard low beam dust cover to access the bulb.

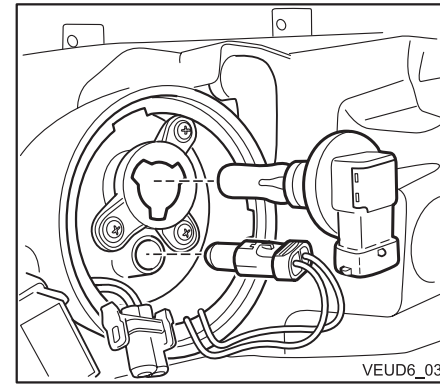
   Note Take care not to drop the dust cap into the engine compartment.
3. Remove the park lamp bulb holder by pulling it straight out.
4. Remove the park lamp bulb by pulling it straight out of the holder.
5. Insert the new bulb into the holder, then install the holder. Replace the low beam bulb dust cap (ensuring the rubber seal is in place).
6. Install components removed in step 1. Refer to *Front lamps* previously in this chapter.
7. Check lamp operation.



Front park lamps*

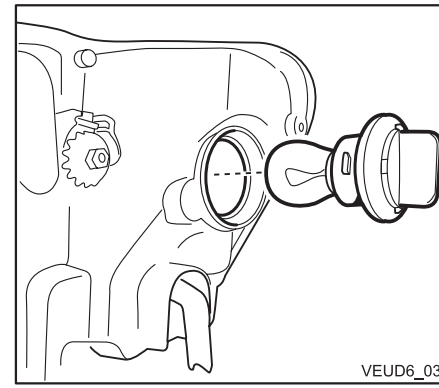
1. Follow the steps described in section *Front lamps* previously in this chapter to gain access to the lamp assembly.
2. Remove the inboard high beam dust cover to access the bulb.

   Note Take care not to drop the dust cap into the engine compartment.
3. Remove the high beam bulb to gain access to the park lamp bulb, refer to *Headlamps – inboard high beam* previously in this chapter.
4. Remove the park lamp bulb holder by pulling it straight out.
5. Remove the park lamp bulb by pulling it straight out of the holder.
6. Insert the new bulb into the holder, then install the holder. Install the high beam bulb and dust cap (ensuring the rubber seal is in place).
7. Install components removed in step 1. Refer to *Front lamps* previously in this chapter.
8. Check lamp operation.



BULB REPLACEMENT cont.

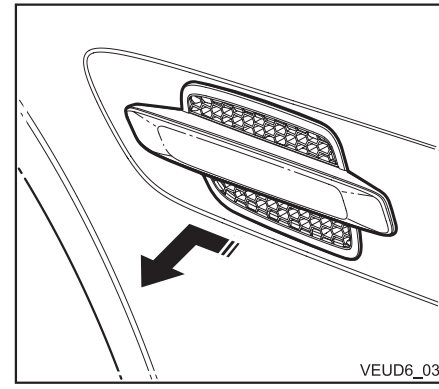
Front turn signal



1. Follow the steps described in section *Front lamps* previously in this chapter to gain access to the lamp assembly. To aid access, remove the outboard dust cap.

   Note Take care not to drop the dust cap into the engine compartment.
2. Turn the bulb holder anticlockwise and remove.
3. Lightly press the bulb and twist anticlockwise out of the holder.
4. Insert the new bulb and install the bulb holder. Ensure that the same colour bulb is used.
5. Install components removed in step 1. Refer to *Front lamps* previously in this chapter.
6. Check lamp operation.

Side turn signal (W5W bulb)



1. Grasp the lens at the rear, push forwards and pull away from the body of the vehicle. Separate the bulb holder from the lens assembly by rotating the bulb holder anticlockwise.
2. Remove the bulb by pulling it straight out of the holder.
3. Insert the new bulb into the bulb holder. Install the bulb holder into the lens housing.

   Note The bulb holder only fits into the lens housing one way. Therefore, keep turning the bulb holder clockwise until it fits into place and can be tightened.
4. When inserting the lamp, first locate the rear of the housing into the body panel of the vehicle before pushing the front inwards to engage the clip.
5. Check lamp operation.

BULB REPLACEMENT cont.

REAR LAMPS

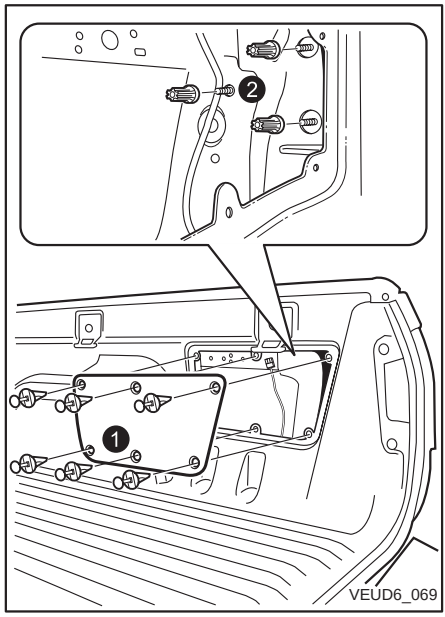
To gain access to the rear turn signal, stop/tail and reverse bulbs:

1. Remove the 6 scrivets and the access panel ❶.

   Use a flat-blade screwdriver to prise outwards under the head of the centre pin of the scrivet.

2. Undo the 3 lamp assembly securing nuts ❷.

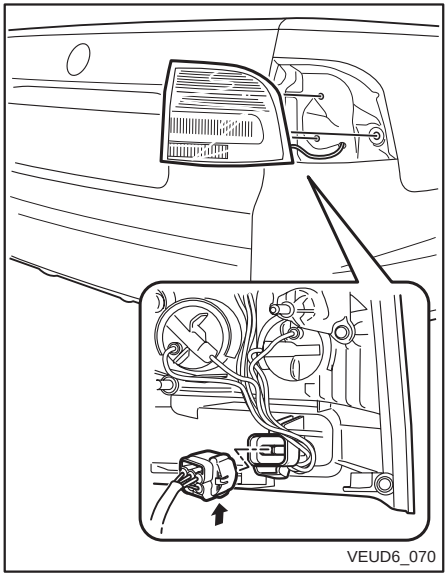
   Note Avoid dropping the nuts.



3. Carefully remove the lamp assembly from the vehicle.

   From the rear of the lamp disconnect the wiring connector.

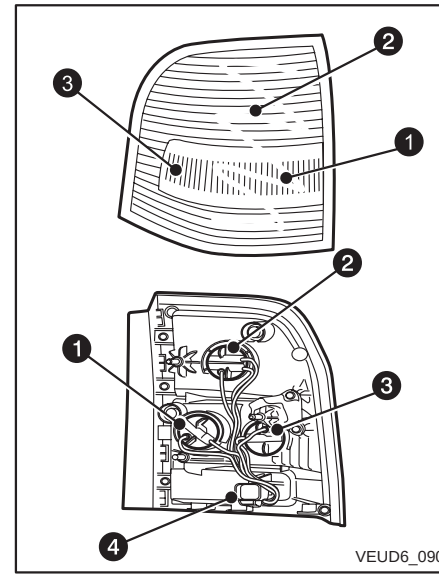
   Note Push the tab at the bottom of the connector to remove.



BULB REPLACEMENT cont.

Rear lamp assembly

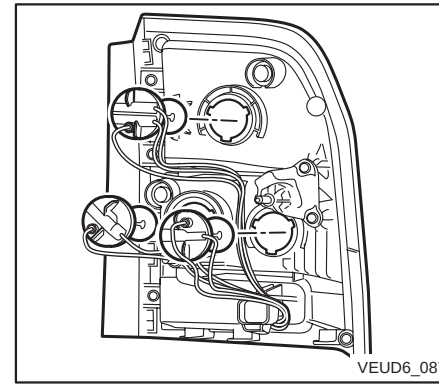
❶ Reverse lamp (P21W bulb).
❷ Stop/tail lamp (P21/5W bulb).
❸ Turn signal lamp (PY21W amber bulb).
❹ Rear lamp wiring connector.



Rear turn signal, stop/tail, reverse

1. Follow the steps described in section *Rear lamps* previously in this chapter to gain access to the lamp assembly.
2. From the rear of the assembly, turn the bulb holder anticlockwise to release it from its housing.
3. Lightly press the bulb and twist anticlockwise out of the holder.
4. Install the new bulb into the bulb holder by pushing it into the holder and turning it clockwise. Ensure that the same colour bulb is used.
5. Install the bulb holder into the lamp.
6. Install the components removed in step 1. Refer to *Rear lamps* previously in this chapter.

   Note Carefully tighten the 3 plastic lamp assembly securing nuts to 2.0 - 4.0 Nm. Do not over tighten
7. Check lamp operation.

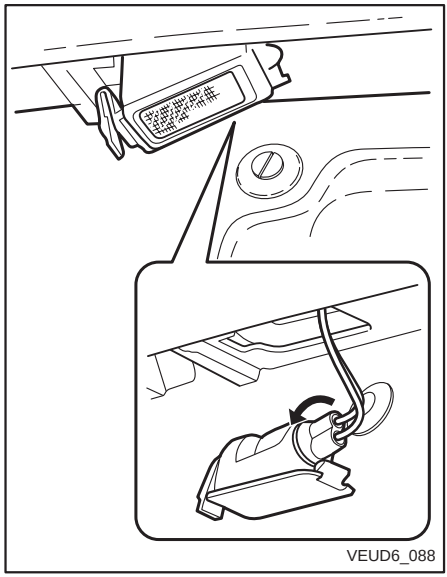


BULB REPLACEMENT cont.

NUMBER PLATE LAMP (W5W BULB)

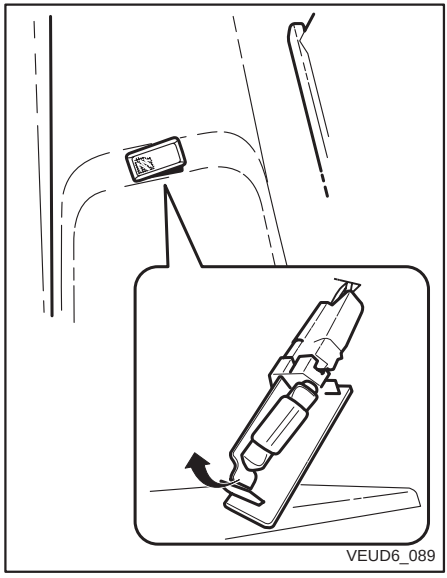
1. Push the locking tang at the end of the lamp housing towards the lens and pull the lamp assembly downwards.
2. Remove the bulb holder from the lamp housing by rotating the bulb holder anticlockwise. Pull the bulb out of the bulb holder.
3. Push the new bulb into the bulb holder. Install the bulb holder into the lamp housing by rotating the bulb holder clockwise, ensuring that the seal is undamaged.

   Note The lamp assembly can only be fitted into the number plate surround in one direction.
4. Engage the fixed tang into the number plate surround, then push the lamp upwards to engage the locking tang.
5. Check lamp operation.


VEUD6_088

CABIN STORAGE AREA LAMP* (FESTOON BULB, 5W)

1. Gently prise away the lens housing with a fine flat-bladed screwdriver.
2. Pull the tab holding the bulb (opposite end to wiring) backwards and pull the bulb out. To install the new bulb, first pull the tab backwards. When the new bulb is in place, feed the wiring back into the cavity and push the lens housing back into place.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NOTES

CHAPTER 7

Weekly checks

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*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

EXTERIOR CHECKS

MISCELLANEOUS CHECKS

As well as taking the vehicle to be serviced, there are a few simple, weekly checks that the owner/operator is recommended to make. These are shown on the following pages.

WARNING

- If the engine temperature is high, the cooling fan may remain on for several minutes after switching off the ignition. Therefore, the engine cooling fan can start working unexpectedly, even when the engine is not running and the ignition is off.
- Electronic ignition systems have a high ignition power. Do not touch the ignition system; this could be highly dangerous.

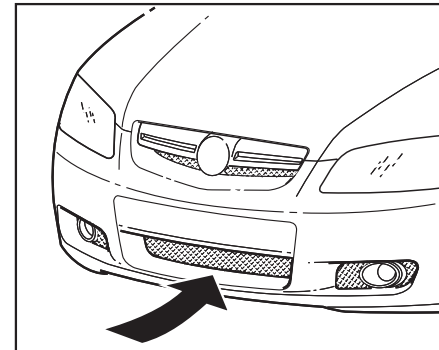
Perform the following checks regularly to ensure a minimum level of safety is maintained.

Check that:

- all exterior lamps are working and that their appropriate indicator lamps on the instrument panel illuminate.
- mirrors and glass are clean and not scratched.
- the automatic transmission* gear selector indicator correctly lines up next to the gear selected.
- the demister operates.
- the horn works.
- all seatbelts are in good condition and operate correctly.
- the seatbelt buckles are clean and operate correctly. Remember that seatbelts must never be worn twisted.

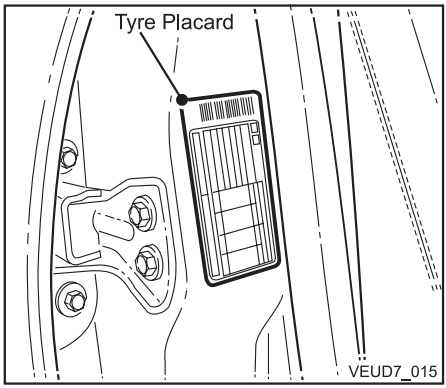
Note Check the air intake area in the front bumper for the build-up of leaves and road grime. Any build-up can impair the engine cooling efficiency of the vehicle.

Clear this area of debris whenever the vehicle is washed.



EXTERIOR CHECKS cont.

TYRES



Air pressure

Weekly checking of the air pressure in the tyres (including the spare) ensures your safety, as well as reducing fuel consumption and increasing the life of the tyres.

For constant long distance or rough road driving, daily checking is recommended.

The correct pressure for the tyres is shown on the tyre placard in the driver's door opening (B pillar).

Increase the inflation pressure in the tyres according to the load on the vehicle.

If the vehicle is heavily loaded, the recommended pressure for the tyres is increased (refer to the tyre placard on the vehicle). Because the tyres are operating under a greater load, the weekly air pressure check becomes even more important.

Therefore, if the vehicle is loaded to half the maximum load, as shown on the compliance label then the tyres should be inflated half way between the minimum and maximum pressures given on the tyre placard.

Tyre inflation pressure increases when the tyres have been driven more than 2 km. Therefore, the pressure should be checked when the vehicle has been stationary for over 3 hours. If they must be checked immediately after driving, increase the pressure shown on the placard by 10 %.

Always use a tyre pressure gauge to check the tyres; simply looking at the tyres is not sufficient. If the pressure is too low, this can result in considerable tyre warm-up and internal damage, leading to tread separation and even to tyre blowout at high speeds.

If the pressure is too high, this can result in reduced traction, harsh vehicle ride, increased risk of tyre blowout and poor tyre wear.

Remember to replace any valve dust caps or extensions, as this stops dirt and moisture from fouling the valves.

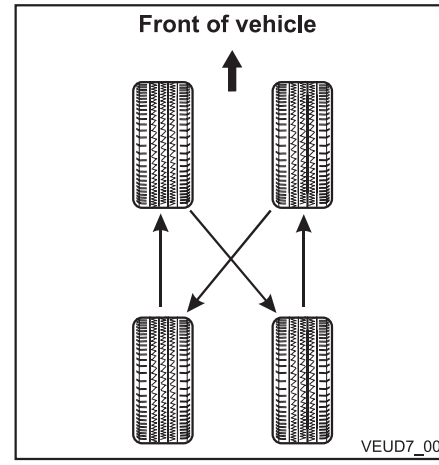
When checking the tyre air pressure, take a look at the condition of the tyre tread and inspect for stones or abnormal wear.

EXTERIOR CHECKS cont.

Tyre rotation

Front and rear tyres perform different jobs and can wear differently depending on factors such as:

- the types of roads driven on,
- driving habits,
- tyre pressures,
- wheel alignment and balance.
- Tyre condition is checked when the vehicle is serviced by a Holden Dealer. They are able to diagnose any unusual signs of wear. If the tyres are rotated, it is recommended that the balance be checked at the same time.



Alignment and balance

Improper wheel alignment can cause the tyres to wear faster and unevenly. It can also cause the vehicle to pull to one side.

Out-of-balance wheels and tyres can cause annoying vibration and uneven tyre wear. If you suspect any of these problems exist, have a wheel alignment and balance check, carried out by your Holden Dealer.

Replacement and repair

Replacing the factory fitted wheels and tyres with non-genuine wheels and tyres may affect the New Vehicle Warranty as well as the vehicle's insurance policy. Refer to the tyre placard on the vehicle for tyre size and load rating. Using a different size or type of tyre may affect such things as:

- ride,
- handling,
- speedometer accuracy,
- vehicle ground clearance,
- tyre clearance,
- snow chain clearance.

Take care when using tyres with heavy treads, including tyres made for better grip in the wet. At sustained high speeds, this type of tyre runs at higher temperatures than standard tyres. Only operate them within the limits recommended by the manufacturer. Any doubts about the tyres on the vehicle should be referred to your Holden Dealer.

EXTERIOR CHECKS cont.

VEHICLES FITTED WITH LOW PROFILE SPORTS TYRES

You have purchased a performance vehicle which has optimally matched low profile tyres fitted to provide you with the best possible ride comfort and running performance.

Low profile tyres are expected to experience greater wear than conventional tyres, depending on driving conditions. It is strongly recommended that you follow the following tyre care and maintenance instructions in order to maximise the service life of your tyres.

Tyre pressure

To assist in minimising tyre wear, please ensure that your tyres are properly inflated at all times. Information on the correct inflation pressure can be found on the tyre placard. Remember that tyre pressure should be checked when cold as tyre pressure will increase as the tyres warm up.

Tyre rotation and replacement

Please ensure that if required, you rotate your tyres approximately every year or 15,000 km, whichever occurs first. This is a recommended interval only. Please note that driving conditions, driving techniques, vehicle loading and weather may warrant more frequent tyre checks and rotation. It is recommended that you monitor tyre wear during service intervals and seek dealer advice if you have any queries.

It is recommended that you replace tyres with new ones that are identical to those fitted as standard equipment. However, if original tyres are not available please refer to the tyre placard for suitable replacement specifications.

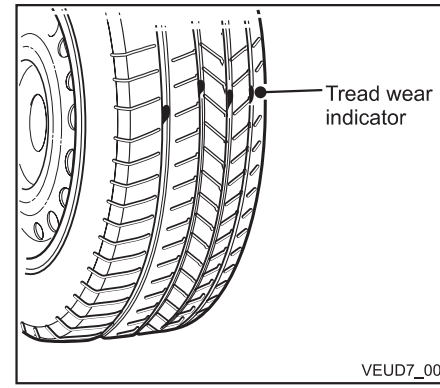
EXTERIOR CHECKS cont.

Tyres with a higher speed or load rating are acceptable, provided they are fitted to a suitable rim size.

Note New tyres should be fitted in pairs to the front. If replacing only one tyre, it should be paired on the same axle with the least worn of the other three.

Replace the tyres when:

- they are worn to the point where the tread indicators appear. The tyres originally fitted to the vehicle have built-in tread indicators. When only 1.5 mm of tread remains, these indicators show as plain bars across the tread pattern at regular intervals around the tyre.
- the tread or sidewall is cut, split, or cracked deep enough to expose the cord or fabric.
- the tyre has a bump or bulge in it, indicating some kind of internal damage.
- the tyre has a puncture, cut or other damage which can not be repaired because of the size or location of the damage.
- the cord or fabric is showing.

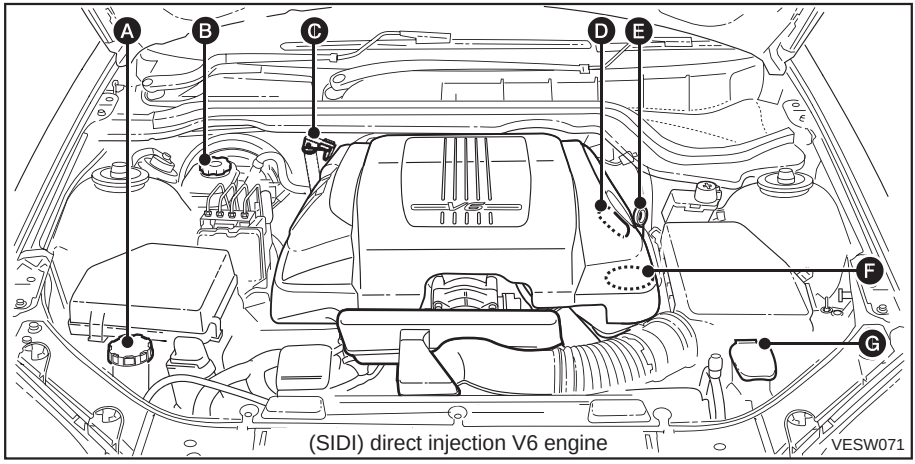


WARNING

Do not attempt to drive on a flat tyre more than is necessary to stop safely. Driving even a short distance can damage the tyre and wheel beyond repair. Tyres which have been repaired or retreaded are not capable of being driven safely at high speeds. Therefore, their use is not recommended.

UNDER BONNET CHECKS

UNDER BONNET LAYOUT – V6 ENGINE



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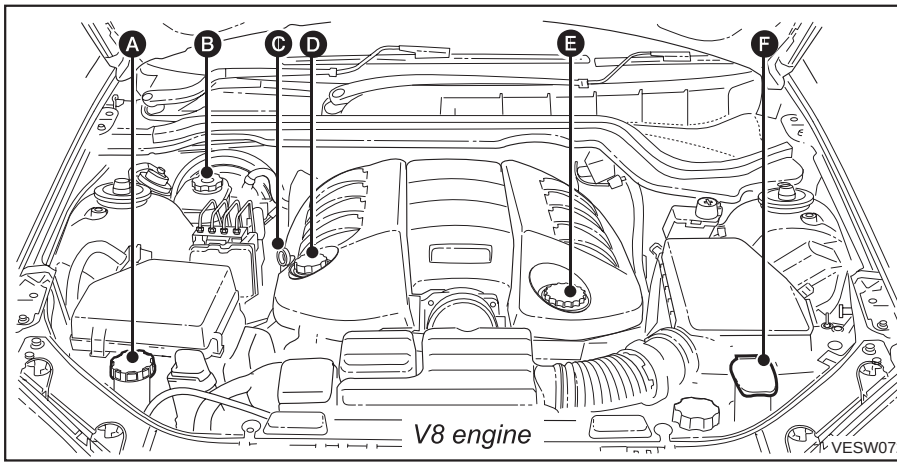
Ⓐ Engine coolant reservoir 7-13
Ⓑ Clutch/brake fluid reservoir* 7-16
Ⓒ Automatic transmission dipstick* (4 speed) 7-12
Ⓓ Engine oil filler cap 7-9
Ⓔ Dipstick for engine oil 7-9
Ⓕ Power steering fluid reservoir 7-18
Note For access to the cap, refer to *Engine cover removal* further on in this chapter.
Ⓖ Windscreen washer fluid reservoir 7-19

UNDER BONNET CHECKS cont.

UNDER BONNET LAYOUT – V8 ENGINE



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UNDER BONNET CHECKS cont.

ENGINE OIL

Checking the engine oil level

The level is checked with the dipstick. For engine oil dipstick location, refer to *Under bonnet layout* previously in this chapter.

Check the level when the oil is warm, such as when stopping for fuel.

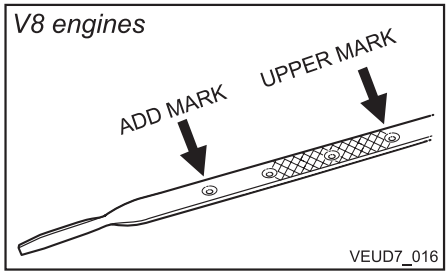
The vehicle must be on level ground.

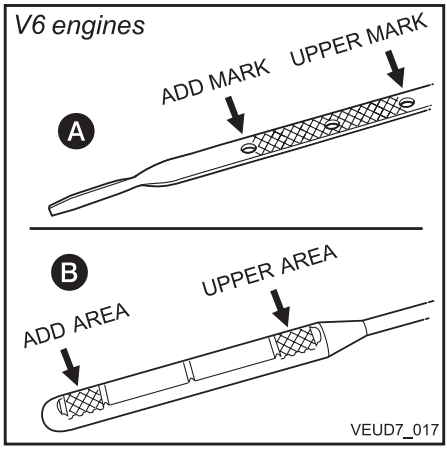
1. After switching off the ignition wait at least 10 minutes for the oil to settle.
2. Remove the dipstick and wipe it clean with a clean cloth or paper towel. Insert the dipstick firmly all the way down, pause for several seconds then withdraw the dipstick and look at the oil level on it.
3.

- V8 and V6 type Ⓐ. If the level is at the ADD MARK, top up with enough oil to reach the UPPER MARK.

  Note The reading should never be over the UPPER MARK.
- V6 type Ⓑ. If the level is within the ADD AREA, top up with enough oil to reach within the UPPER AREA.

  Note The reading should never be over the UPPER AREA.





Adding engine oil

For engine oil specification, refer to *Specifications* in chapter 8.

1. Turn the engine oil filler cap anticlockwise and remove. Refer to *Under bonnet layout* previously in this chapter for engine oil filler cap location.
2. Pour the required amount of oil into the opening (clean up any spilt oil).
3. Wait a few minutes for the oil to settle, then check the oil level with the dipstick again. If still too low, add more oil.
4. When correct, screw the engine oil filler cap back on tightly and replace the dipstick.
5. If the oil level is checked when the oil is cold, do not run the engine first. Cold oil does not drain back into the oil pan fast enough to give an accurate reading.

Note Non-detergent and other low quality oils are specifically not recommended. The use of break-in oil, tune up compounds, friction reducing compounds and other supplemental additives are not recommended. Their use increases costs, may be detrimental to the operation of the vehicle and may void the New Vehicle Warranty, to the extent that Holden considers the non-recommended fluid to have affected the specifications or quality of the vehicle.

Engine oil change intervals

Refer to the Service/warranty booklet.

UNDER BONNET CHECKS cont.

Engine oil consumption

Every internal combustion engine uses a certain amount of oil, especially when running in. The engine is dependent on oil for lubricating critical areas, such as the cylinder walls, pistons, rings and valve stems. These parts are all subjected to high friction loads and will prematurely wear out without a constant supply of engine oil. A thin film of oil is left on the cylinder walls, some of which is carried into the combustion chamber and burnt during the combustion process. This also applies to the film of oil on the valve stems which is drawn into the combustion chamber and burnt.

There are several other factors that contribute to the rate of oil consumption in the vehicle's engine:

- Operation of the vehicle:

  High speed driving and heavy towing increases engine temperature, which lowers oil viscosity, causing more oil to reach the combustion chamber and get burnt away. Always check the oil level prior to towing or going on a long trip.

- Quality and grade of oil:

  Oil viscosity is a significant factor in oil consumption. If an oil which is too 'thin' (low viscosity) is used, the oil consumption will increase. Use only the recommended grades of oil.

- Oil level:

  Maintaining a proper oil level is also an important factor in controlling oil consumption. An over-full engine will splash oil onto the cylinder walls in quantities greater than the piston rings can control. This excess oil is drawn into the combustion chamber and burnt, or may result in aeration of oil in the sump causing damage to the engine.

- Dilution:

  When a vehicle is frequently driven on short trips, the engine often fails to reach normal operating temperatures. The oil becomes diluted by fuel and moisture that settles in the oil pan. This may raise the oil level creating a false reading on the oil level dipstick. For example, in a vehicle that has accumulated 1,500 km of short distance or intermittent city operation and has consumed a normal amount of oil, the level may not have dropped from the UPPER mark, due to dilution. If this vehicle is driven for some distance at highway speeds on a warm day, the dilution elements evaporate lowering the oil level. This sudden change in oil level can give the driver the impression that an excessive amount of oil has been lost in the highway operation.

UNDER BONNET CHECKS cont.

Measuring oil consumption

A simple consumption test can be performed if the driver is concerned by an apparent drop in the oil level.

Add sufficient oil to bring the level up to the UPPER mark on the dipstick (avoid overfilling). Take note of the odometer reading and check the oil periodically. When the level reaches the **ADD** mark, carefully measure the amount of oil required to return the level back to UPPER mark and note the odometer reading. The amount of oil added for the kilometres travelled over the duration of the test indicates the oil economy of the engine. Remember to check the oil level at the start and finish of the test on level ground and allow time for oil to drain down (approximately 10 minutes after engine is switched off). Avoid minor top ups (0.25 to 0.5 litre) when measuring oil consumption, as inaccuracies of oil quantity added, may cloud the result.

If, after taking into account the above factors, you are still concerned that your engine has excessive oil consumption then consult your Holden Dealer. Remember that an engine's oil consumption should not be judged until it has run at least 10,000 km.

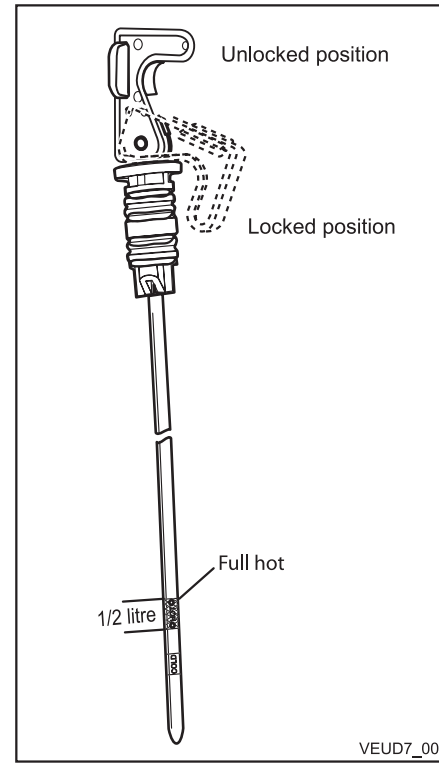
UNDER BONNET CHECKS cont.

AUTOMATIC TRANSMISSION FLUID LEVEL (4 SPEED)*

The dipstick handle on vehicles fitted with 4-speed automatic transmissions is located at the rear of the engine compartment, on the right side. Refer to *Under bonnet layout* previously in this chapter for automatic transmission dipstick location.

Note

- Dirt in the transmission can cause breakdowns, so be careful when checking or adding fluid.
- Check the fluid after the vehicle has been driven for at least 20 km to ensure the fluid is hot.



Checking transmission fluid level

1. Park the vehicle on level ground with the engine running.
2. Ensure that the transmission gear selector is in **P** (Park) and that the park brake is applied.
3. Unlock the handle and remove the dipstick.
4. Wipe it clean with a clean cloth or paper.
5. Insert the dipstick fully once more.
6. Remove it again and read the fluid level. The fluid level should be showing on the cross hatched Hot area. The level should never read over the full Hot mark.

   Note On vehicles fitted with a 6 speed automatic transmission, the fluid will be checked when the vehicle is serviced by your Holden Dealer.

Adding transmission fluid

Use only Holden specified automatic transmission fluid. Refer to *Specifications* in chapter 8 for the correct type.

1. Add the fluid in the dipstick tube (the same opening as the dipstick is stored in).
2. Wait one minute for the oil to settle (clean up any spilt fluid).
3. Check the level on the dipstick with the engine running and add further fluid if necessary. Remember to always replace the dipstick and lock the handle down.

If the transmission fluid requires constant topping up, it could indicate that there is a leak or fault. Contact your Holden Dealer.

Note The cold markings on the dipstick should only be used as an indication when initially filling the transmission after the fluid has been completely drained. It should be re-checked when hot.

UNDER BONNET CHECKS cont.

ENGINE COOLANT

Note For all V6 engine variants, the coolant reservoir locations are in similar positions within the engine compartment.

Engine coolant level

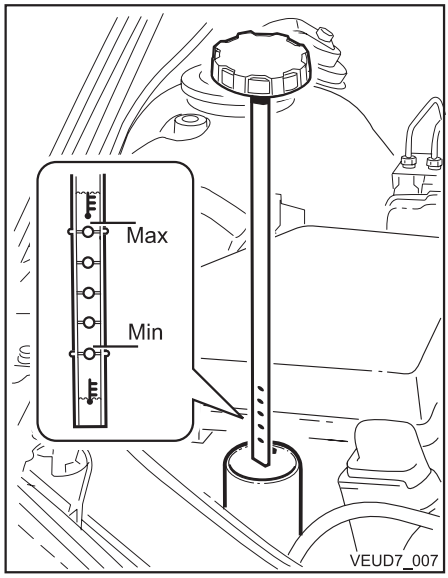
Check the coolant level at least once a week.

The cap for the coolant reservoir is yellow and has the word **DEXCOOL** marked on the top. Refer to *Under bonnet layout* previously in this chapter for coolant reservoir location.

Checking the coolant level

WARNING

Do not remove the radiator cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.



1. Ensure the ignition is switched off.
2. Turn the coolant dipstick cap one-eighth of a turn anticlockwise and slowly pull out the dipstick. There are Maximum and Minimum markings on the dipstick.
3. When the engine is cold, the coolant level should be at or above the Minimum mark on the dipstick. After the vehicle has been driven and the engine is at normal operating temperature, the level should be somewhere between half full and the Maximum mark.
4. If the coolant level is correct, replace the dipstick and turn the cap one-eighth of a turn clockwise to secure.

UNDER BONNET CHECKS cont.

Adding coolant

WARNING

Do not spill coolant on the vehicle's exterior surfaces as it can damage the paint work. If you do, wash it off immediately.

Refer to *Specifications* in chapter 8 for engine coolant specifications and water-to-coolant ratio.

1. Mix a solution of Holden coolant and clean fresh water in a container as per the ratio specified.

   Note Failure to use the coolant or maintain the specified concentration may result in voiding the New Vehicle Warranty.
2. Pour the fluid into the coolant dipstick tube (the same opening that the coolant dipstick is stored in). Again check the level with the dipstick and add further fluid if necessary.
3. When the level is correct, replace the dipstick and turn the cap one-eighth of a turn clockwise to secure.

   Note Only replace the dipstick one way. The word **DEXCOOL** on the cap should be able to be read from the front of the vehicle.

   In emergency situations, plain clean fresh water may be used temporarily until the correct Holden coolant is obtained (as soon as possible) from the nearest Holden Dealer.

   Note If the coolant requires regular topping up, it could indicate that there is a leak or a fault. Contact your Holden Dealer as soon as possible.

How the engine coolant works

The specified coolant works in three ways:

- It contains special corrosion inhibitors.
- It helps the cooling system in hot weather by increasing the boiling point.
- It protects against freezing down to –37 °C, provided the specified concentration is maintained.

WARNING

Corrosion inhibitors and antifreeze fluids are poisonous. Use extreme care when handling. If swallowed, seek medical attention. Do not remove the coolant reservoir cap if the engine and radiator are still hot. Scalding fluid and steam can be blown out under pressure which could cause serious burns.

Refer to *Engine overheating* in chapter 6 if the engine overheats or loses a lot of coolant.

UNDER BONNET CHECKS cont.

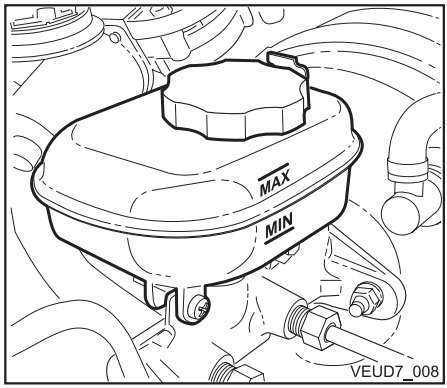
BRAKE FLUID

Brake fluid level

WARNING

Brake fluid is poisonous and corrosive and will damage the paint finish of the vehicle if spilt.

Check the brake fluid level in the brake fluid reservoir weekly.



Checking the brake fluid level

The fluid level is visible through the brake fluid reservoir. Refer to *Under bonnet layout* previously in this chapter for brake fluid reservoir location.

Maintain the level between the **MIN** and **MAX** markings.

If the fluid is between these levels, do not remove the reservoir cap, as brake fluid exposed to the atmosphere will quickly absorb moisture.

Adding brake fluid

1. Ensure that the ignition is switched off.
2. Wipe the sides of the cap clean and turn anticlockwise to remove.
3. Top up with heavy duty brake fluid which meets Holden specifications. Refer to *Specifications* in chapter 8 for the correct specification.

WARNING

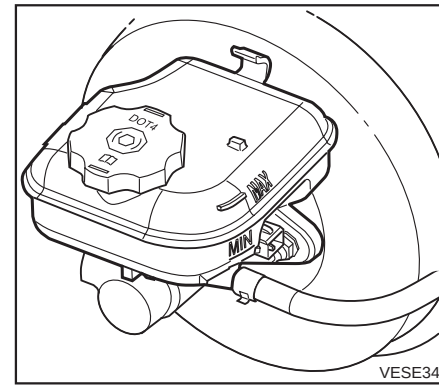
Use only new brake fluid. Use of old, used or inferior brake fluid may endanger the functioning of the brake system.

4. Secure the cap and clean up any spilt fluid.

   Note If the brake fluid reservoir requires constant topping up it could indicate that a fault exists. Contact your Holden Dealer immediately.

UNDER BONNET CHECKS cont.

CLUTCH/BRAKE FLUID (Manual transmission)*



Clutch/brake fluid level

Note On vehicles with manual transmission, the clutch fluid and brake fluid share a common reservoir.

WARNING

Clutch/brake fluid is poisonous and corrosive and will damage the paint finish of the vehicle if spilt.

Check the clutch/brake fluid level in the clutch/brake fluid reservoir weekly.

Checking the clutch/brake fluid level

The fluid level is visible through the clutch/brake fluid reservoir. Refer to *Under bonnet layout* previously in this chapter for clutch/brake fluid reservoir location.

Maintain the level between the **MIN** and **MAX** markings.

If the fluid is between these levels, do not remove the reservoir cap, as clutch/brake fluid exposed to the atmosphere will quickly absorb moisture.

Adding clutch/brake fluid

1. Ensure that the ignition is switched off.
2. Wipe the sides of the cap clean and turn anticlockwise to remove.
3. Top up with heavy duty brake fluid which meets Holden specifications. Refer to *Specifications* in chapter 8.

WARNING

Use only new fluid. Use of old, used or inferior fluid may endanger the functioning of the clutch/brake system.

4. Secure the cap and clean up any spilt fluid.

Note If the clutch/brake fluid reservoir requires constant topping up it could indicate that a fault exists. Contact your Holden Dealer immediately.

UNDER BONNET CHECKS cont.

ENGINE COVER REMOVAL

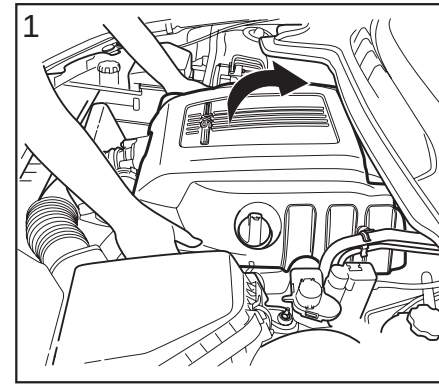
WARNING

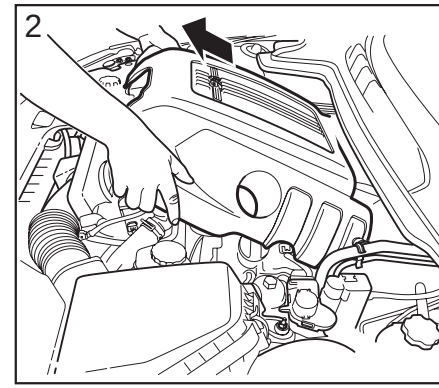
- Do not place hands on any under bonnet components when the engine is HOT or RUNNING.
- Before removing the engine cover, allow the engine to cool sufficiently.

Cover removal

The engine cover needs to be removed to access the power steering and radiator caps.

1. Switch the engine off, remove the ignition key, place the gear selector lever in **P** (park) and set the park brake firmly.
2. Open the bonnet. Grasp the cover at both front corners as shown in illustration 1 then carefully lift the cover upwards at the front approximately 15 cm.
3. Carefully pull the cover toward the front of the vehicle as shown in illustration 2. Store the cover in a safe location with its top side facing upwards.

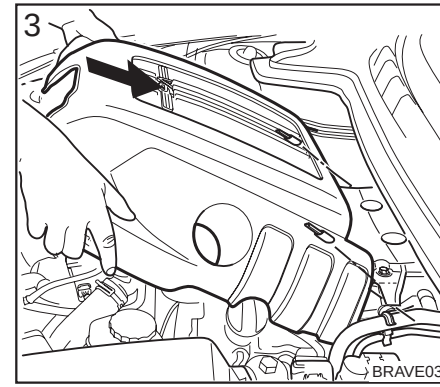




Cover replacement

1. Position the cover as shown in illustration 3 ensuring the cover is resting in its fully rearward position.

   Note There are two guide tabs at the rear of the cover that must engage before the cover can be lowered.
2. Carefully lower the front of the cover downward ensuring that the hole on the left side slides over the oil filler cap.
3. When the cover is resting correctly on the engine, gently press down on both front corners to engage the fasteners. Gently pull upwards on the cover to ensure it is securely fitted.



UNDER BONNET CHECKS cont.

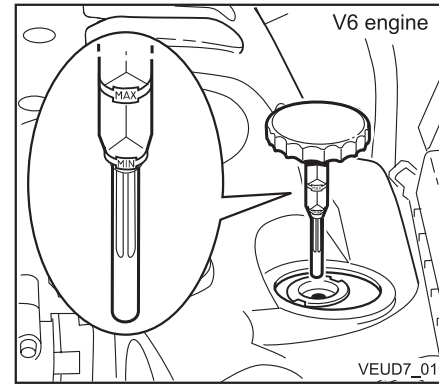
POWER STEERING FLUID

Power steering fluid level

Check the level after the vehicle has been driven for a while (at least 20 minutes) so that the fluid is warm. A convenient time is when stopping for fuel. The cold level check should only be used after the engine has not been running for at least 5 hours. However, the hot level check is always recommended.

Refer to *Under bonnet layout* previously in this chapter for power steering reservoir location.

Checking the power steering fluid level

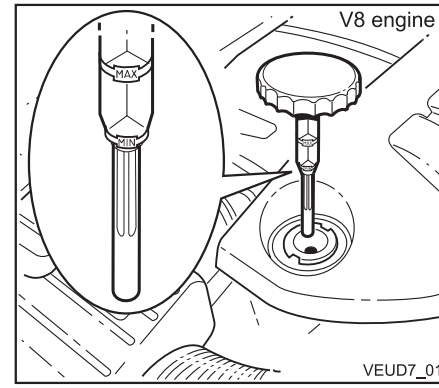


Note For vehicles fitted with a (SIDI) direct injection V6 engine, the power steering fluid reservoir is located in a similar position. To access the reservoir, refer to *Engine cover removal* previously in this chapter.

1. Wipe the sides of the cap clean.
2. Turn the cap anticlockwise until the cap can be lifted off. The **MIN** (cold) and **MAX** (hot) level markings are on the dipstick attached to the cap.

   When the engine is hot, the level should be at the hot **MAX** level.
3. When the engine is cold, the fluid level must be midway between **MIN** and **MAX** on the dipstick.

Adding power steering fluid



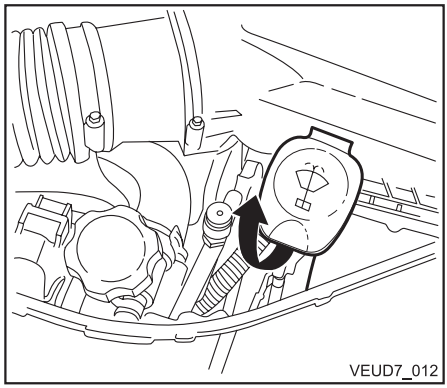
Refer to *Specifications* in chapter 8 for the correct power steering fluid to use.

1. Ensure the ignition is switched off.
2. Top up with power steering fluid which meets Holden specifications. Do not overfill the reservoir.
3. Secure the cap and clean up any spilt fluid.

   Note If the power steering fluid requires constant topping up, it could indicate that a fault exists. Contact your Holden Dealer.

UNDER BONNET CHECKS cont.

WASHER FLUID



Washer fluid level

The washer fluid reservoir has a blue flip top cap. Refer to *Under bonnet layout* previously in this chapter for washer fluid reservoir location.

The container shown supplies water to the front windscreen washer.

Checking the washer fluid level

As washer fluid is constantly used, top up the level weekly.

Adding washer fluid

For a crystal clear windscreen, the correct amount of Holden washer fluid additive can be added. Refer to *Exterior cleaning* in chapter 10.

Note Do not use ordinary soap or detergent as these not only froth up, but also damage the wiper rubbers.

Make sure the cap is secured.

BATTERY

WARNING

- Batteries emit an explosive gas mixture which may be ignited. Therefore, you should keep sparks and flames away from the battery at all times. Never smoke near a battery.
- Batteries contain sulphuric acid. If acid contacts skin or clothing, flush immediately with plenty of water. In case of eye contact, flush with plenty of water and contact a doctor immediately. Battery acid also damages paint and fabrics. To minimise damage, wash off immediately.
- Take care with all metal objects and tools including items you may wear (for example jewellery, rings and metal watch bands) near battery terminals.

REPLACEMENT BATTERY

The vehicle's battery is located inside the passenger cabin, behind the passenger seat. It is secured behind a small access panel. For battery replacement, refer to your Holden Dealer or authorised repairer.

WARNING

- Do not place heavy objects on the battery cover. Refer to *Storage compartments* in chapter 3.
- A specifically developed battery with a ventilation system is required for this vehicle. Any other standard battery may cause explosive gases to enter the passenger cabin.
- Do not remove the caps on the top of the battery. The battery supplied in the vehicle is maintenance free and does not require checking or filling.
- The battery vent tube must be installed correctly to ensure the explosive gases are vented outside the vehicle.
- Only use a manufacturer recommended battery as a replacement, otherwise the electric power management (EPM) system may not operate correctly.

VEHICLE BATTERY DISCONNECTION

The battery is recharged by the alternator when the engine is running. If the engine is not run for approximately 6 weeks, the battery may discharge, due to the power required by systems such as the security system. If the battery is disconnected it may discharge after approximately 12 weeks.

If the vehicle battery is disconnected when leaving the vehicle for a long period of time, it is recommended that the battery be trickle fed on a battery charger overnight, before installing it back into the vehicle.

If the vehicle battery is disconnected for any reason:

- Some trip computer displays will be reset.
- The personal identity key system* may forget some settings. The driver's adjustments will be remembered the next time the features are adjusted. Refer to *Personal identity keys* in chapter 2.

For emergency starting when the battery is flat, refer to *Flat battery* in chapter 6.

CHAPTER 8

Specifications

Page

Specifications – V6 engines 8-2
Specifications – V8 engines 8-4
General specifications 8-5
Identification labels 8-6

*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

SPECIFICATIONS – V6 ENGINES

Engine type	3.6L MULTIPOINT FUEL INJECTION V6
Engine capacity	3564 cc
Engine power and torque	Please refer to holden.com.au
Engine oil specification	SAE 5W-30 ILSAC GF4; API SM
Refill engine oil capacity	6.7 L approximately (including filter)
Coolant specification	50% clean fresh water and 50% Dexcool® anti-freeze coolant, conforming to specification number GM6277M
Coolant capacity	10 L approximately
Automatic transmission fluid	Dexron® VI
Differential oil	Castrol SAF Carbon Modified SAE 75W-85 API GL5 GM
Brake and clutch fluid	Dot 4 heavy duty brake fluid conforming to Holden specification number HN 2456
Power steering fluid	Dexron® VI
Petrol tank capacity	73 L
LPG* tank capacity	Approximate usable capacity 74 L
Battery	Maintenance free 12 V, with ventilation system. LN2 460 cold cranking amps (CCA), 85 minutes reserve capacity. LN3* 600 cold cranking amps (CCA), 120 minutes reserve capacity.

WARNING

Use only a manufacturer recommended battery with a ventilation system. Use of other batteries may effect the electric power management system and allow explosive gases into the vehicle cabin. Refer to your Holden Dealer or authorised repairer.

SPECIFICATIONS – V6 ENGINES cont.

Engine type	3.6L (SIDI) DIRECT INJECTION V6
Engine capacity	3564 cc
Engine power and torque	Please refer to holden.com.au
Engine oil specification	SAE 5W-30 ILSAC GF4; API SM
Refill engine oil capacity	6.7 L approximately (including filter)
Coolant specification	50% clean fresh water and 50% Dexcool® anti-freeze coolant, conforming to specification number GM6277M
Coolant capacity	10 L approximately
Automatic transmission fluid	Dexron® VI
Manual transmission fluid	SAE 75W-90 GL5 conforming to Esso specification number JWS2250C
Differential oil	Castrol SAF Carbon Modified SAE 75W/85 API GL5 GM
Brake fluid	Dot 4 heavy duty brake fluid conforming to Holden specification number HN 2456
Power steering fluid	Dexron® VI
Fuel tank capacity	73 L
Battery	Maintenance free 12 V, with ventilation system. LN2 460 cold cranking amps (CCA), 85 minutes reserve capacity. LN3* 600 cold cranking amps (CCA), 120 minutes reserve capacity.

WARNING

Use only a manufacturer recommended battery with a ventilation system. Use of other batteries may effect the electric power management system and allow explosive gases into the vehicle cabin. Refer to your Holden Dealer or authorised repairer.

SPECIFICATIONS – V8 ENGINES

Engine type	GENERATION IV V8
Engine capacity	5967 cc
Engine power and torque	Please refer to holden.com.au
Engine oil specification	SAE 5W-30 ILSAC GF4; API SM
Refill engine oil capacity	7.6 L approximately (including filter)
Coolant specification	50% clean fresh water and 50% Dexcool® anti-freeze coolant, conforming to specification number GM6277M
Coolant capacity	11 L approximately
Automatic transmission fluid	Dexron® VI
Manual transmission fluid	Holden part number 12378329
Differential oil	Castrol SAF Carbon Modified SAE 75W-85 API GL5 GM
Brake and clutch fluid	Dot 4 heavy duty brake fluid conforming to Holden specification number HN 2456
Power steering fluid	Dexron® VI
Fuel tank capacity	73 L
Battery	Maintenance free 12 V, with ventilation system. LN2 460 cold cranking amps (CCA), 85 minutes reserve capacity. LN3* 600 cold cranking amps (CCA), 120 minutes reserve capacity.

WARNING

Use only a manufacturer recommended battery with a ventilation system. Use of other batteries may effect the electric power management system and allow explosive gases into the vehicle cabin. Refer to your Holden Dealer or authorised repairer.

GENERAL SPECIFICATIONS

DIMENSIONS (MM)

	Ute			
	Omega	SV6	SS	SS V-series
Length	5055	5040	5040	5040
Width - excl. mirrors	1899	1899	1899	1899
Width - incl. mirrors	2100	2100	2100	2100
Height	1497	1480	1480	1480
Wheel base	3009	3009	3009	3009
Overhang - front	848	847	847	847
Overhang - rear	1198	1184	1184	1184
Front track	1602	1592	1592	1592
Rear track	1618	1608	1608	1608

The above figures are based on the design dimensions.

AIR CONDITIONING SPECIFICATIONS

Refrigerant type	R-134A
Refrigerant charge	580 g +/- 20 g
Compressor oil type	Polyalkylene glycol (Holden part no.90510419)
Compressor oil refill capacity	120 ml +/- 10 ml

WARNING

The air conditioning system should be serviced by qualified personnel only. Improper service methods may cause personal injury.

IDENTIFICATION LABELS

Ⓐ LPG COMPLIANCE PLATE*

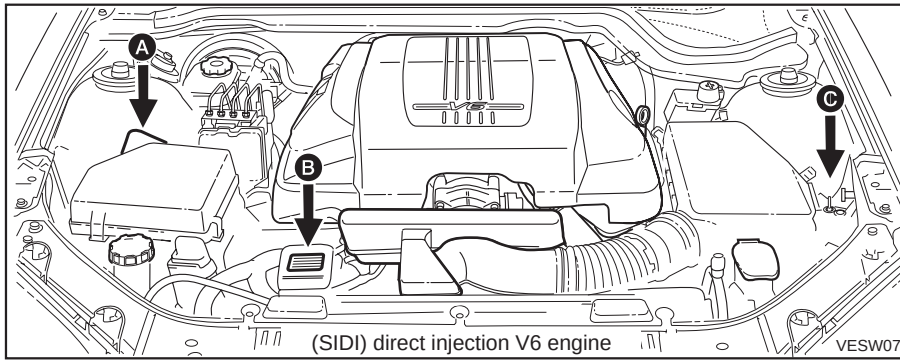
This plate shows the installation date, the plate number, permit number, certificate of compliance number, cylinder (LPG tank) number, Vehicle Identification Number (VIN) and engine number.

Ⓑ COOLING SYSTEM/AIR CONDITIONING LABEL

This label shows the warnings for the air conditioning and cooling system as well as information on the air conditioning refrigerant and compressor oil.

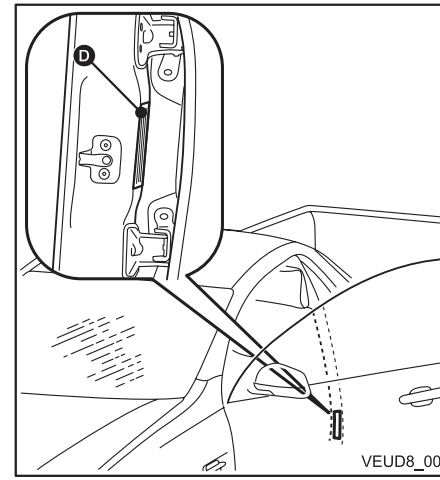
Ⓒ BODY AND OPTION PLATE

This plate shows model identification, Vehicle Identification Number (VIN), paint and trim colour combination, air conditioning, paint number, engine, transmission, axle ratio options, suspension options (where applicable) and build date. The build date is defined as the date by calendar month and year in which the body shell and powertrain sub-assemblies are co-joined and the vehicle is driven or moved from the production line.

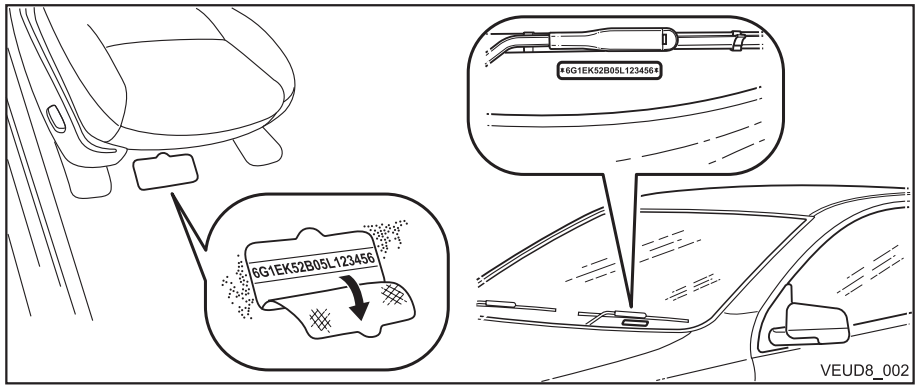


Ⓓ COMPLIANCE LABEL

Shown on the label are the vehicle make, model series, date of manufacture, Vehicle Identification Number (VIN), approved seating capacity and approval number.



IDENTIFICATION LABELS cont.



ISOVIN PLATES

Each vehicle has its own, individual International Standards Organisation Vehicle Identification Number (ISOVIN), which is shown both behind the windscreen on the left side and under the right-hand front seat, under a carpet flap.

6	G	1	E	K	4	C	7	X	A	L	1	2	3	4	5	6

Sequential production number

Plant build code: L = Elizabeth

Model year code: 9 = 2009, A = 2010, etc

Security check code

Engine code: 7 = 3.6 L Alloytec V6 LY7
V = 3.6 L Alloytec V6 LLT
H = 6.0 L GEN IV V8 L98
Y = 6.0 L GEN IV V8 L76

Restraint code:

A = active manual belts

B = active manual belts, airbag driver only

C = active manual belts, airbag-driver & passenger-front

D = active manual belts, airbag-driver & passenger-front & front seat side

E = active manual belts, airbag-driver & passenger-front, front seat side, roof side

F = active manual belts, airbag-driver & passenger-front & roof side

G = active manual belts, airbag-driver & passenger-front & rear seat side, roof side

H = active manual belts, airbag-driver & passenger-front, front seat side, roof side & knee

Body style code: 4 = Ute

Luxury level: K = Omega/SV6/SS, P = SS-V

Model series: E = VE

World manufacturer identifier: 6 = Asia Pacific, G = Australia, 1 = GM Holden

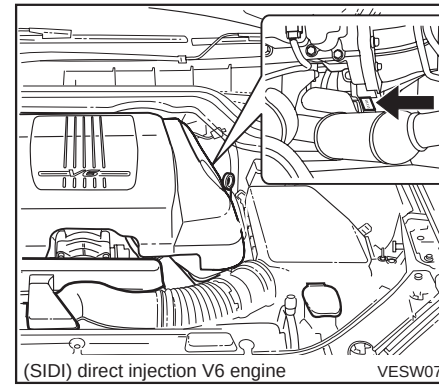
IDENTIFICATION LABELS cont.

ENGINE NUMBERS

V6 engine

The engine number is located at the rear of the engine on the passenger's side.

Note The engine number must be viewed from under the vehicle.

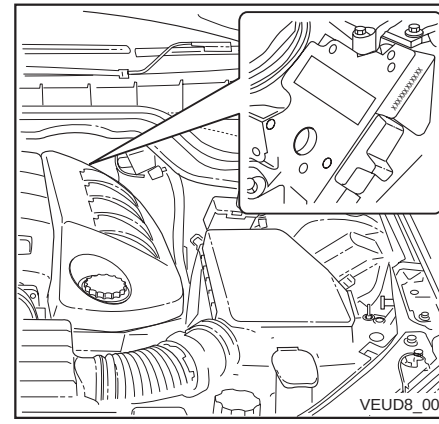


(SIDI) direct injection V6 engine VESW074

V8 engine

The engine number is located at the rear of the engine on the passenger's side.

Note The engine number can be viewed from the top, using a mirror, after the engine cover has been removed,



VEUD8_009

CHAPTER 9

Tow and load

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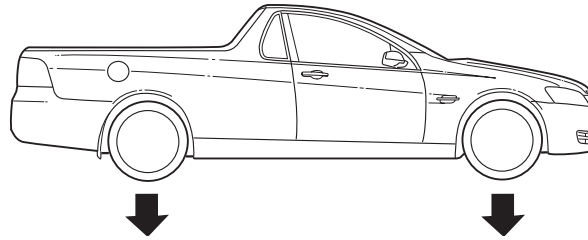
*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

LOADING THE VEHICLE

MAXIMUM FRONT AND REAR AXLE LOADS

Do not exceed the maximum axle loads shown in the diagram, including the weight of any fitted accessories. If unsure, the vehicle should be weighed at a weighbridge. This ensures the vehicle's axles have sufficient strength to carry the total weight and still retain a considerable capacity safety margin to cope with weight transfer as the vehicle brakes, accelerates, corners and goes over bumps. Total weight includes body, mechanicals, cargo and passengers.



Vehicle	Rear axle load (kg)	Front axle load (kg)
Omega	1460	1080
Omega LPG	1460	1080
SV6	1350	1080
SS	1350	1120
SS V-series	1273	1120

Note Refer to the vehicle's compliance label for gross vehicle mass (GVM) figures.

Carrying capacity

Carrying capacity is the maximum capacity of the vehicle for the carriage of all nonstandard items including cargo carrying devices (for example, tray or body, if applicable), the cargo itself, occupants, optional equipment and accessories. Light commercial vehicles, depending on their model and specification, have different carrying capacities.

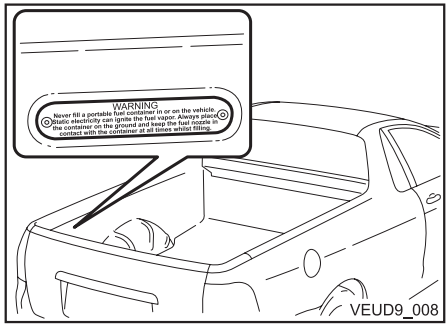
LOADING THE VEHICLE cont.

NOTES ON LOADING THE VEHICLE

- Place heavy objects in the rear load area as far forward as possible against the rear bulkhead. When stacking objects, place the heavier objects at the bottom. Unsecured objects in the rear load area could be thrown forward with great force during heavy braking or in an accident.
- Heavy objects can slip when the vehicle is braking heavily or driven around a bend, and the handling of the vehicle may change.
- Do not place objects in front of the rear window or on the dashboard above the instrument panel. They are reflected in the glass, obstruct the driver's view and may be thrown through the vehicle in the event of heavy braking.
- Do not place objects in the area where the airbags inflate. Objects can cause injury if the airbags are deployed.

WARNING

Never fill a portable fuel container in or on the vehicle. Static electricity can ignite the fuel vapor. Always place the container on the ground and keep the fuel nozzle in contact with the container at all times while filling, as indicated on the warning plate on the inside of the load area.


WARNING
Never fill a portable fuel container in or on the vehicle.
Static electricity can ignite the fuel vapor. Always place
the container on the ground and keep the fuel nozzle in
contact with the container at all times whilst filling.
VEUD9_008

CARRYING PORTABLE GAS CYLINDERS IN VEHICLES

WARNING

Gas cylinders can leak, creating a risk of fire or explosion. As a precaution, ensure adequate ventilation when carrying gas cylinders. They must be restrained from rolling around, and where possible, placed in the load area of the vehicle. It is recommended that if gas cylinders are frequently transported, that a purpose-built carrying compartment be used. Transportation of gas cylinders is regulated by legislation in some States.

HARD TONNEAU COVER*

WARNING

- Sitting or standing in the cargo area or on the surface of the hard tonneau cover* while the vehicle is in motion may lead to serious injury or death.
- Do not carry volatile materials or liquids within the cargo area while the hard tonneau cover* is shut as harmful fumes or gases may accumulate.
- Do not drive the vehicle while the hard tonneau cover* is open.
- In certain conditions, small amounts of dust and/or water particles may enter the cargo area via the hard tonneau cover*.
- Do not place heavy objects on the hard tonneau cover* as this may cause damage to the cover which may not be covered by warranty.

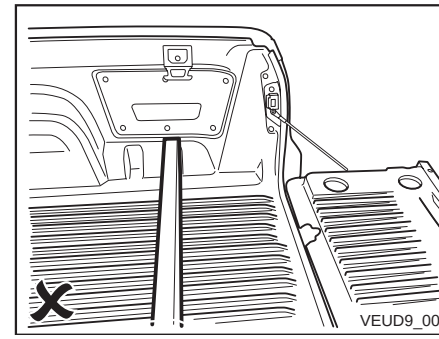
LOADING THE VEHICLE cont.

SECURING CARGO

WARNING

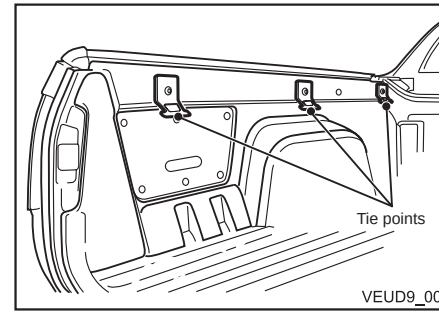
Do not operate the vehicle with the tailgate in the open position as cargo may fall from the load area and the number plate will be obscured from view.

Do not use the moulded ribs in the rear load area to secure cargo.



Tie points

Use the six tie points (3 on either side of load area) shown to secure cargo.



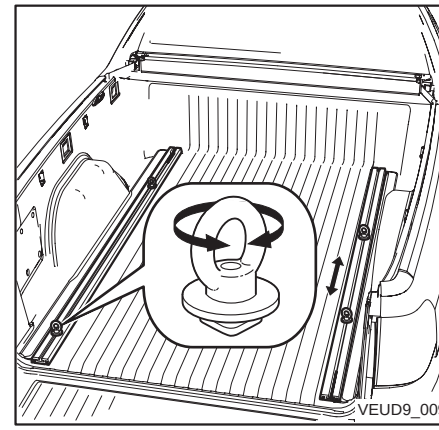
Tie down rails*

Use tie down rails to secure heavy cargo.

1. To adjust the tie down eyelets, use a suitable tool to turn the eyelets anticlockwise to loosen.
2. Slide the tie down eyelet to the desired position on the tie down rail.
3. Once in the desired position, tighten by turning clockwise.
4. To remove tie down eyelets, turn anticlockwise to loosen and slide out the end of the rail.

   Note

   - Avoid separating the two sections of the tie down eyelets.
   - Removed eyelets should be stored in a safe location.



TOWING

TRAILERS

The word 'trailer' is used throughout this section and is intended to include all types of towed vehicles, such as a caravan, boat trailer or any other special purpose trailer.

TOWING

The vehicle is designed primarily as a light commercial vehicle, so handling, durability and economy may be affected by towing a trailer.

Refer to the *Towing equipment* table further on in this chapter to see which equipment is specified as mandatory and which equipment is recommended for the weight you are towing. Your Holden Dealer will help supply and install towing equipment to suit your requirements.

OVERLOADING

Never exceed the loads given for the towing equipment fitted to the vehicle. For your safety and the vehicle's durability, all mandatory equipment must be fitted. Otherwise you may void the New Vehicle Warranty, to the extent that Holden considers the overloading or missing equipment to have affected the specifications or quality of the vehicle.

MAXIMUM TOWING CAPACITIES (KG) – BRAKED TRAILER

Engine	**V6**		**V8**	
Transmission	**Manual**	**Automatic**	**Manual**	**Automatic**
Ute	1600	1600	1600	1600
Ute with LPG	1600	1600	–	–
Note The maximum unbraked towing capacity for all vehicles is 750 kg.				

WARNING

Holden towing equipment is recommended where it is available. Where it is not available, no recommendation is made as to the make of equipment which should be used. Holden will not accept liability for defects occurring in towing equipment not marketed by Holden or for defects in the vehicle arising from the use of such equipment or for loss or injury caused by use of such equipment. The use of such equipment may void your New Vehicle Warranty, to the extent that Holden considers the non-recommended equipment affects the specifications or quality of your Holden vehicle. It is inadvisable to mix and match different brands of towing equipment, as equipment is usually designed as an integrated package.

MANUAL TRANSMISSION*

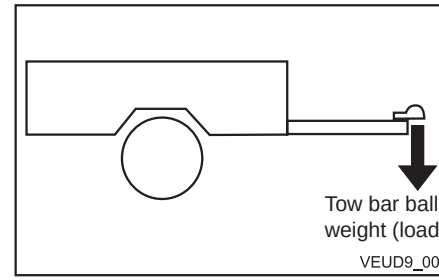
When towing with a manual transmission, do not exceed 100 km/h. Local laws may require a lower maximum speed.

AUTOMATIC TRANSMISSION*

For the recommended automatic shift modes to use when towing, refer to *Automatic transmission* in chapter 4.

TOWING cont.

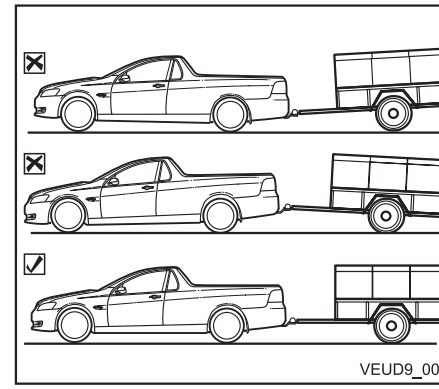
Recommended procedure for attaching a trailer



If a trailer is hitched to the vehicle, it places a weight on the tow bar. This weight is called the 'tow bar ball weight' or 'tow ball load'.

As a general guideline, for single axle trailers, the ball load should be approximately 10 % of the loaded trailer mass. For heavy trailers with more than one axle, the ball load should be in the range of 5 % - 10 % of the loaded trailer mass.

This can be adjusted by correctly packing the contents of the trailer. For example, by moving items forwards or backwards within the trailer so as to change the balance of the trailer.



If the tow bar ball weight is too light or too heavy, the steering and handling of the vehicle may be affected.

In any case, the maximum ball load must not exceed 160 kg.

Axle loads must not be exceeded when the tow bar ball weight is included. Refer previously in this chapter for maximum axle loads. If maximum axle loads are exceeded, sufficient weight should be removed from the rear of the vehicle and transferred onto the trailer.

Ensure the weight of the packed trailer is not greater than the towing capacity of the Holden approved tow bar package fitted to the vehicle.

Towing with Electronic Stability Program (ESP®)

When towing with a vehicle fitted with ESP®, you may hear the noise of the ESP® modulator working. The ESP® is reacting to the vehicle movement caused by the trailer, which mainly occurs during cornering. This is considered normal when towing heavier trailers.

Park Assist*

The Park Assist system will automatically deactivate when a trailer lighting plug is connected to the vehicle. It will automatically activate again when the plug is removed.

TOWING cont.

TOWING EQUIPMENT

Tow load	Mandatory equipment	Recommended equipment
Up to 750 kg	Holden 1,600 kg rated tow bar.	
	Holden trailer wiring harness.	
Between 751 kg and 1600 kg	Holden 1,600 kg rated tow bar.	Load distribution hitch.
	Holden trailer wiring harness.	
	Brakes on the trailer.	

Load distribution hitch*

A load distribution hitch transfers load to the vehicles front wheels aiding brake performance. This also enables more load to be carried in the vehicle without exceeding the rear axle load limit.

WARNING

- At no time may the total front or rear axle load exceed the maximums specified. Refer to *Loading the vehicle* previously in this chapter.

TOWING cont.

TOWING PRECAUTIONS

- When heavily loading the vehicle or when towing, the tyres should be inflated to the maximum recommended pressure. Refer to *Tyres* in chapter 7 for tyre placard location and information about tyre pressures.
- Ensure that a load distribution hitch is correctly distributing the tow ball load. Refer to *Towing equipment* previously in this chapter.
- Tighten the tow ball retaining nut to 175 Nm (Newton metres) and check the torque frequently.
- Vehicles handle differently when towing. It is a good idea to make a couple of short distance trips with the trailer before setting off on a longer journey.
- Have the vehicle correctly maintained and serviced.
- Have the trailer maintained and serviced, with particular attention given to the condition of the brakes, tyres, suspension, wheel bearings, towing coupling and lighting.
- Use an extended-arm mirror on both sides of the vehicle.
- Headlamps may need re-aiming after the loaded trailer has been hitched, particularly if a load distribution hitch is not used.
- Use a lower gear, rather than the brakes, when descending steep hills.
- Automatic transmission*: At highway speeds it is recommended that cruise control be used. Cruise control prevents the transmission from unnecessarily changing gears (particularly on grades). Refer to *Automatic transmission* in chapter 4 for further recommendations when towing.
- Do not use axle-mounted hitches. They can cause damage to the axle housing, wheel bearings, wheels and tyres.
- Ensure that the tow bar does not obscure the rear licence plate. If necessary, remove the tow bar tongue when it is not required for towing.
- If a tow bar is removed, be certain to have any mounting holes in the underbody properly sealed to prevent the possible entry of exhaust fumes, dust and water.

Trailer brakes

- Trailer brakes are mandatory on trailers weighing 750 kg and over when loaded. The brakes on the trailer must be designed to cope with the braking requirements of that trailer under all towing conditions, without adversely affecting the brakes on the vehicle.
- Consult the appropriate regulatory body in your State or Territory for the legal requirements of trailer brakes.

Running-in when towing

It is recommended that the new vehicle be driven for at least 1,500 km before towing. If the vehicle must tow before this, do not exceed 80 km/h. The same applies if the vehicle is fitted with a new or reconditioned engine, transmission or rear axle.

Vehicle maintenance

More frequent vehicle maintenance is required when using the vehicle to tow. Refer to the Service/warranty booklet in the vehicle's glovebox.

CHAPTER 10

Cleaning

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Interior cleaning.....10-2
Exterior cleaning.....10-4

*The asterisk signifies equipment options not in all vehicles, model variants, engine options, optional equipment and Genuine Holden Accessories (and Parts).

INTERIOR CLEANING

WARNING

Many cleaning products are toxic, flammable or may damage the interior. When cleaning the interior, avoid volatile cleaners such as acetone, lacquer thinners, enamel reducers, nail polish removers, or cleaners such as laundry soaps, bleaches or reducing agents. Never use carbon tetrachloride, petrol or naphtha for any cleaning purpose. Ensure that the vehicle is well ventilated while using any cleaners and always follow the cleaning product manufacturer's recommendations. Water based cleaners, rather than solvent based cleaners, are recommended.

Steam cleaning of seats is not recommended.

UPHOLSTERY

Remove dust and dirt that has accumulated on upholstery every few weeks, more often with constant driving. This can be done readily with a vacuum cleaner. Before attempting to remove spots and stains, it is necessary to determine:

- the type of fabric,
- the nature and age of the stain,
- the effect of the stain removal agent on the upholstery.

Remove stains as soon as possible. If a stain remains for any length of time it may oxidise or set, making removal very difficult, if not impossible.

VINYL AND HARD TRIM

Wipe over the surface with a dry cloth during the regular cleaning of the vehicle.

WARNING

- Only use a dry cloth to clean around the audio system and electrical switches.
- Care should be exercised when using interior protectant on low gloss surfaces.

Should dirt accumulate and become embedded in the material pattern:

1. Use lukewarm water and soap to work up thick suds on a piece of cheesecloth and apply to the surface.
2. Repeat using only a damp cloth and no soap.
3. Wipe dry with a soft cloth. The above cleaning instructions also apply to the rubber floor mats.

CLOTH

To clean seats upholstered with cloth, observe the following instructions:

- Remove loose dirt and dust with a vacuum cleaner or soft brush.
- DO NOT use a whisk broom or a coarse hair brush.
- For normal soiling, sponge lightly with warm water containing a mild detergent. Rub the fabric lightly and, if necessary, sponge again to remove any stubborn stains. Soak up excess fluid with a dry cloth. A good quality velour fabric and vinyl cleaner may be used, but should be used sparingly.

INTERIOR CLEANING cont.

CARPET

Thoroughly brush or vacuum the carpet. In many instances the carpet may require no further cleaning. If the carpet is extremely soiled, thoroughly vacuum it to remove loose dirt then, using a good quality velour fabric and vinyl cleaner, clean a small area at a time. After each area is cleaned, remove as much of the cleaner as possible with a vacuum cleaner.

Secured carpet mats* Small peg shaped retainers are provided to hold carpet mats in place. To remove the mats, pull up in the area close to the round plastic retainer in the corner of the mat. To replace the mats, position the round plastic retainer over the peg, then push down until it clicks into place.

LEATHER*

To remove surface soil and dirt from leather, clean regularly using a leather revitaliser. Apply using a lint free cloth and rub it onto the leather, do not saturate the leather with the cleaner and do not pour it directly onto the leather. Allow the leather to dry naturally. A mild detergent may be used as an alternative to a leather revitaliser.

For deeply embedded soil and dirt, use a leather cleaner. This should be applied using the same process as leather revitaliser. After using a leather cleaner/revitaliser, apply a leather protector. A leather protector is designed to repel dirt and provides water resistance.

Note

- Clean and protect leather at least twice a year.
- Do not use synthetic cloths or brushes for cleaning the leather as this may damage the leather.
- Do not use solvents as they may damage and/or discolour the leather.
- The leather may shrink and harden if exposed to direct sunlight for extended periods. If possible park in the shade or cover the leather.
- Do not leave items on the leather that may melt and stick to leather, for example, plastic bags.

SEATBELTS

Clean seatbelts only with a mild, non-abrasive soap and lukewarm water. After washing, be sure to thoroughly sponge the washing solution out of the belts.

WARNING

Do not bleach or dye seatbelts as this may severely weaken them.

INTERIOR GLASS

Clean interior glass of the vehicle using a good quality glass cleaner and a clean soft cloth. Take care when cleaning inside the rear window so as not to damage the rear window demister.

Never use abrasive cleaners on any vehicle glass, as they can cause scratches.

EXTERIOR CLEANING

CARING FOR PAINT

WARNING

Do not spill coolant on the vehicle's exterior surfaces as it can damage the paint work. If you do, wash it off immediately.

To help preserve that shiny new vehicle finish, pay special attention to correctly treating those conditions that can damage the paint.

- Road bloom:

  If, over a long period of time, oils, dirt, exhaust and other pollutants are allowed to build up, they may combine to affect the paint finish.
- Etching:

  Tree sap, bird droppings, egg white, salt water and other natural deposits can, if allowed to stay on the paint, leave an etching or scarring.
- Pitting:

  Tar spots and some industrial fallout can react chemically and may cause pitting to the surface of the paint.

Note For certain body colours, some variation in gloss and colour may exist in the engine bay, load compartment and on the underside of the vehicle.

PAINT INSPECTION

Inspect the vehicle regularly for scratch marks, cracks or damaged areas, all of which could develop rust. Repair any deep scratches, cracks or breakdown in the finish without delay. Take care to ensure that any rusting is counteracted immediately, otherwise rust 'creep' will extend beyond the damaged area, particularly in tropical or coastal areas, where the moist, or salt-laden air accelerates rusting. The paint finish of the vehicle gives a very high degree of protection against the weather, but wear and deterioration occur when the vehicle is exposed to elements for prolonged periods. The vehicle therefore should be garaged whenever possible.

To prevent damage of the paint surface, remove foreign matter as soon as possible.

Note Due to the acidity, remove foreign matter such as bird droppings within 24 hours, or sooner if driving in warm conditions.

EXTERIOR CLEANING cont.

WASHING THE VEHICLE

The easiest way to keep the paint looking as new is to keep it clean. A wash once a week will keep the vehicle in good condition. However, it must be washed correctly.

Note

- Never use an automatic wash that requires anything touching the paint (other than water).
- Great care should be taken using automatic or manual high pressure washing devices. Too high a pressure or too close in proximity to the paint or both can damage the paint finish.
- Wash the vehicle once a week to remove build up of any grime on the paint.
- Never wash the vehicle in direct sunlight; find a shady spot to wash the vehicle.

1. Hose the vehicle down from top to bottom with plenty of cold water (in accordance with current water restrictions, if any). This removes any grit or other loose particles and substances. Do not use a sponge or cloth at this point.
2. Fill a bucket with lukewarm water and add no more than two capfuls of gentle detergent. Do not use hot water, strong soap or chemical detergents.
3. To remove bird droppings, soak with a wet sponge for several minutes before washing off. If still persistent, use a solution of 1 litre of water and 110 grams of dissolved baking soda (Bicarbonate of Soda). Rinse the area with clean water.
4. Starting with the roof, use a clean sponge to clean a small section at a time. Do not allow liquid to dry before rinsing off that section with clean water. When all sections are completed, rinse the whole vehicle again with clean water.
5. Dry the vehicle thoroughly with a good quality chamois.

WARNING

Take care when moving the vehicle after washing, in case water has affected the brakes. Applying the brakes lightly will indicate whether they have been affected. To dry them quickly, lightly apply the brakes while maintaining a slow forward speed with a clear area ahead, until brake performance returns to normal.

REMOVING STAINS (GREASE, OIL AND TAR SPOTS)

Washing the vehicle regularly means that most of the harmful substances deposited on the paint are removed before they can cause permanent damage. However, some substances are not easy to remove. If you notice stains on the paint, make sure that you remove them at the earliest possible opportunity.

Grease and oil, and even tar if it's fresh, can be removed from the paint with a little kerosene or turpentine. As a precaution against staining, wash and polish the area as soon as possible after the stain has been removed. A rubbing or cutting compound can be used after a normal wash. Do not do this on a regular basis as it removes paint.

WARNING

- Some chemical cleaners, used for removing road oils and tars from painted surfaces, have been found to be detrimental to automotive paint.
- If petrol is spilt on the paint when refilling, flush off immediately with clean water as petrol has a tendency to stain or soften new paint finish during the weathering out period, particularly when the vehicle is exposed to high temperatures.
- Petrol MUST NOT be used to clean any painted or plastic surfaces.

EXTERIOR CLEANING cont.

AIR INTAKES

The intake area between the bonnet and windscreen can collect leaves which impairs air flow into the vehicle. Also, the air intake area below the front bumper can collect leaves and road grime, which impairs engine cooling. Refer to *Exterior checks* in chapter 7. Clear this area of debris whenever the vehicle is washed.

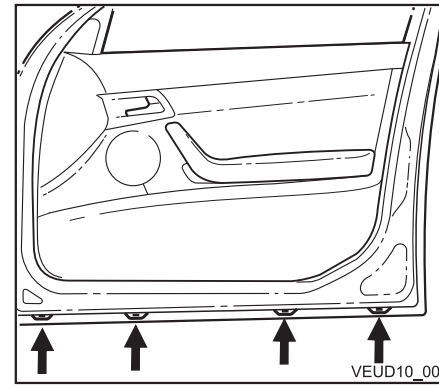
UNDER VEHICLE WASHING

The effects of substances such as salt from road surfaces can cause rust under the vehicle. Hose the underbody with clean water whenever the vehicle is washed. In geographical areas having a heavy concentration of corrosive materials (such as by the sea), it is recommended that the complete underbody be inspected and washed at least once each year, preferably after winter exposure. Pay particular attention to cleaning out the underbody where dirt and other foreign materials may have collected.

DOOR DRAIN HOLES

It is important that the drain holes at the bottom of the door panels are checked to make sure they are free of dirt and other foreign materials which could trap water inside the panels. Clean clogged drain holes with a plastic pin or peg. Care should be taken not to scratch the paint work.

Note The drain holes in the doors are located behind the lower door seal.



EXTERIOR CLEANING cont.

POLISHING

Under normal circumstances the paint does not need polishing to retain its shine. A weekly wash is sufficient. However, the use of a good quality polymer glaze, approximately every 3 months will reduce the effects of road bloom by removing natural contaminants which can build up on the paint.

WARNING

Do not attempt to apply a polish without first washing the vehicle to remove loose grit, surface dirt, dust or grease.

TYRES

Sponging with cold water is all that is necessary for normal cleaning. Oil and grease should be removed with soap and water or detergent. For tar or other substances, use a mild abrasive, such as mechanic's hand soap or kitchen cleaning powder, if necessary. Thoroughly wash the tyres with clean water to finish. Do not use petrol to clean tyres.

A new tyre look can be restored using a good quality tyre and bumper shine.

EXTERIOR CLEANING cont.

ALLOY WHEELS*

To preserve the original appearance of alloy wheels, keep them clean and free from build up of road dirt. A good quality wheel cleaner can be used for cleaning alloy wheels. Do not use abrasive cleaners on alloy wheels, as the painted surface may be damaged.

GLASS CLEANING – GENERAL

Take care not to scratch the glass. If it is cleaned at the same time as the rest of the vehicle, there is a possibility that particles of grit will cause fine scratches. Flush off any mud on the glass when washing the body, but leave the final cleaning and polishing until afterwards. Use a good quality glass cleaner and wash each section of glass in turn, making sure that the water, its container and the sponge are quite clean and free from grit. Clean, old linen cloth is better than new material for polishing glass.

WINDSCREEN

It is important that the windscreen be kept clean so that the wiper blades operate as effectively as possible. Old wiper blades can cause windscreen scratching. Regularly inspect and replace them.

Never use abrasive cleaners to clean glass as they can cause scratches, impairing night vision. After the windscreen has been cleaned with a wet sponge, wipe it over with a soft, lint free cloth or chamois.

Refer to your Holden Dealer for windscreen washer additive.

WIPER BLADES

Oil and road scum thrown up on the windscreen causes smearing when the wipers are switched on and is transferred onto the wiper blades. While many methodically clean the windscreen glass, they often forget to clean the wiper blades. Consequently, smearing of the glass reappears immediately the wiper blades are used. Clean the blades by lifting them off the windscreen and cleaning with a good quality glass cleaner and a clean cloth.

WARNING

Do not operate the wiper blades by hand as this damages the wiper drive mechanism.

If the wiper blades are used to clean dust and dirt from the windscreen in dry conditions, always use the washer system first to wet the windscreen. Ensure that the windscreen washer reservoir is full.

Should the wiper blades freeze to the windscreen, you must lift them off and free them by hand before switching on the wipers.

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